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=> s vitamin B6

L1 19365 VITAMIN B6

=> s (pyridoxamine or pyridoxal#####)

L2 34946 (PYRIDOXAMINE OR PYRIDOXAL#####)

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=> s (verapamil or amlodipine or diltiazem)
L3      87342 (VERAPAMIL OR AMLODIPINE OR DILTIAZEM)

=> s 12 and 13
L4      301 L2 AND L3

=> s 14 and hypertrophy
L5      141 L4 AND HYPERTROPHY

=> s 11 and 15
L6      1 L1 AND L5

=> s 12 and ((vitamin E) or (vitamin C))
L7      794 L2 AND ((VITAMIN E) OR (VITAMIN C))

=> s 17 and hypertrophy
L8      58 L7 AND HYPERTROPHY

=> s 12 and (atenolol or metoprolol or propranolol)
L9      251 L2 AND (ATENOLOL OR METOPROLOL OR PROPANOLOL)

=> s 19 and hypertrophy
L10     145 L9 AND HYPERTROPHY

=> s 110 or 18 or 15
L11     182 L10 OR L8 OR L5

=> dup remove 111
PROCESSING COMPLETED FOR L11
L12     182 DUP REMOVE L11 (0 DUPLICATES REMOVED)

=> s 112 and vitamin B6
L13     8 L12 AND VITAMIN B6

=> s 112 and (congestive(6a)heart)
L14     138 L12 AND (CONGESTIVE(6A) HEART)

=> s 114 and 11
L15     1 L14 AND L1

=> s 114 and homocysteine
L16     13 L14 AND HOMOCYSTEINE

=> s 114 and microvasculature
L17     3 L14 AND MICROVASCULATURE

=> s 117 or 116 or 115 or 113 or 16
L18     20 L17 OR L16 OR L15 OR L13 OR L6

=> dup remove 118
PROCESSING COMPLETED FOR L18
L19     20 DUP REMOVE L18 (0 DUPLICATES REMOVED)

=> s 114 and vasodilator
L20     25 L14 AND VASODILATOR

=> s 119 or 120
L21     38 L19 OR L20

=> s 121 not 119

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=&gt; d 119 1-18 bib,ab

L19 ANSWER 1 OF 20 USPATFULL on STN

	Full Text	Citing References
AN	2005:220892	USPATFULL
TI	Enzymes	
IN	Yang, Junming, San Jose, CA, UNITED STATES Dyung Lu, Aina M., San Jose, CA, UNITED STATES Yue, Henry, Sunnyvale, CA, UNITED STATES Elliott, Vicki S., San Jose, CA, UNITED STATES Warren, Bridget A., Encinitas, CA, UNITED STATES Duggan, Brendan M., Sunnyvale, CA, UNITED STATES Forsythe, Ian J., Redwood City, CA, UNITED STATES Lee, Ernestine A., Castro Valley, CA, UNITED STATES Hafalia, April J.A., Santa Clara, CA, UNITED STATES Ramkumar, Jayalaxmi, Fremont, CA, UNITED STATES Chawla, Narinder K., Union City, CA, UNITED STATES Baughn, Mariah R., San Leandro, CA, UNITED STATES Becha, Shanya D., Castro Valley, CA, UNITED STATES Gorvad, Ann E., Livermore, CA, UNITED STATES Tran, Uyen K., San Jose, CA, UNITED STATES Li, Joana X., San Francisco, CA, UNITED STATES Yao, Monique G., Carmel, IN, UNITED STATES Ison, Craig H., San Jose, CA, UNITED STATES Griffin, Jennifer A., Fremont, CA, UNITED STATES Lee, Soo Yeun, Daly City, CA, UNITED STATES Chang, Hsin-Ru, Belmont, CA, UNITED STATES Emerling, Brooke M., Palo Alto, CA, UNITED STATES Tang, Tom Y., San Jose, CA, UNITED STATES Lal, Preeti G., Santa Clara, CA, UNITED STATES Kable, Amy E., San Francisco, CA, UNITED STATES Marquis, Joseph P., San Jose, CA, UNITED STATES Jiang, Xin, Saratoga, CA, UNITED STATES Jackson, Alan A., Los Gatos, CA, UNITED STATES Zebarjadian, Yeganeh, San Francisco, CA, UNITED STATES Swarnakar, Anita, San Francisco, CA, UNITED STATES Wilson, Amy D., Belmont, CA, UNITED STATES Jin, Pei, Palo Alto, CA, UNITED STATES Richardson, Thomas W., Redwood City, CA, UNITED STATES Bhatia, Umesh, San Jose, CA, UNITED STATES Burrill, John D., Redwood City, CA, UNITED STATES Lee, Sally, San Francisco, CA, UNITED STATES Blake, Julie J., San Francisco, CA, UNITED STATES Ho, Anne, Sunnyvale, CA, UNITED STATES Zheng, Wenjin, Mountain View, CA, UNITED STATES Gao, Jin, Sunnyvale, CA, UNITED STATES	
PA	Incyte Corporation, Palo Alto, CA, UNITED STATES, 94304 (U.S. corporation)	
PI	US 2005191627	A1 20050901
AI	US 2003-491183	A1 20020926 (10)
	WO 2002-US31096	20020926
		20040329 PCT 371 date
PRAI	US 2003-326388P	20010928 (60)
	US 2003-328979P	20011012 (60)
	US 2003-346034P	20011019 (60)
	US 2003-348284P	20011026 (60)
	US 2003-338048P	20011108 (60)

US 2003-332340P 20011116 (60)  
 US 2003-368799P 20020329 (60)  
 US 2003-368722P 20020329 (60)  
 US 2003-381588P 20020517 (60)  
 US 2003-387119P 20020607 (60)  
 US 2003-390662P 20020621 (60)  
 DT Utility  
 FS APPLICATION  
 LREP INCYTE CORPORATION, EXPERIMENTAL STATION, ROUTE 141 & HENRY CLAY ROAD,  
 BLDG. E336, WILMINGTON, DE, 19880, US  
 CLMN Number of Claims: 30  
 ECL Exemplary Claim: 1  
 DRWN No Drawings  
 LN.CNT 19139  
 AB Various embodiments of the invention provide human enzymes (ENZM) and  
 polynucleotides which identify and encode ENZM. Embodiments of the  
 invention also provide expression vectors, host cells, antibodies,  
 agonists, and antagonists. Other embodiments provide methods for  
 diagnosing, treating, or preventing disorders associated with aberrant  
 expression of ENZM.

L19 ANSWER 2 OF 20 USPATFULL on STN

Full Text	Citing References
AN 2005:220634	USPATFULL
TI	Compositions comprising <u>vitamin E</u> and <u>saw palmetto</u>
IN	Harvey, Bryce M., Pike Road, AL, UNITED STATES
PA	ProEthic Laboratories, L.L.C., Montgomery, AL, UNITED STATES (U.S. corporation)
PI	US 2005191369 A1 20050901
AI	US 2004-932219 A1 20040901 (10)
RLI	Continuation-in-part of Ser. No. <u>US 2004-832950</u> , filed on 27 Apr 2004, PENDING Continuation-in-part of Ser. No. <u>US 2004-787350</u> , filed on 26 Feb 2004, PENDING
DT	Utility
FS	APPLICATION
LREP	KING & SPALDING LLP, 191 PEACHTREE STREET, N.E., 45TH FLOOR, ATLANTA, GA, 30303-1763, US
CLMN	Number of Claims: 31
ECL	Exemplary Claim: 1
DRWN	1 Drawing Page(s)
LN.CNT	1037
AB	Methods, compositions, and processes for preparing compositions that comprise <u>Vitamin E</u> and optionally saw palmetto. The <u>compositions are preferably formulated with a zinc compound and a selenium compound.</u>

L19 ANSWER 3 OF 20 USPATFULL on STN

Full Text	Citing References
AN 2005:125053	USPATFULL
TI	Pyridoxine and <b>pyridoxal</b> analogues: new uses
IN	Haque, Wasimul, Edmonton, CANADA
PA	Medicure International Inc., Winnipeg, CANADA (non-U.S. corporation)
PI	US 2005107443 A1 20050519
AI	US 2004-16737 A1 20041221 (11)
RLI	Division of Ser. No. <u>US 2003-411552</u> , filed on 10 Apr 2003, PENDING Continuation-in-part of Ser. No. <u>US 2002-147263</u> , filed on 15 May 2002, GRANTED, Pat. No. <u>US 6548519</u> Continuation-in-part of Ser. No. <u>US 2001-900718</u> , filed on 6 Jul 2001, GRANTED, Pat. No. <u>US 6417204</u>
PRAI	US 2000-216907P 20000707 (60)

DT Utility  
FS APPLICATION  
LREP Attn: Ronald A. Daignault, MERCHANT & GOULD P.C., P.O. Box 2903,  
Minneapolis, MN, 55402-0903, US  
CLMN Number of Claims: 49  
ECL Exemplary Claim: 1  
DRWN 1 Drawing Page(s)  
LN.CNT 1786

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention provides ~~pyridoxal and pyridoxine analogues,~~  
pharmaceutical compositions containing pyridoxine and ~~pyridoxal~~  
analogues, and methods of administering pharmaceutical compositions  
containing a therapeutically effective amount of at least one of these  
analogues. In accordance with the present invention, the ~~pyridoxal and~~  
pyridoxine analogues can be used ~~in the treatment or prevention of~~  
heparin induced thrombocytopenia (HIT), stroke, and ischemia, and in the  
treatment of symptoms thereof. The ~~pyridoxal and pyridoxine~~  
analogues can be used in neuroprotection.

L19 ANSWER 4 OF 20 USPATFULL on STN

Full Text	Citing References
AN	2005:22884 USPATFULL
TI	Use of an aqueous or hydroalcoholic extract from bauhinia for the preparation of a composition
IN	Wirth, Corinna, Darmstadt, GERMANY, FEDERAL REPUBLIC OF Buchholz, Herwig, Frankfurt, GERMANY, FEDERAL REPUBLIC OF
PI	US 2005019426 A1 20050127
AI	US 2004-876632 A1 20040628 (10)
PRAI	DE 2003-10329955 20030703
DT	Utility
FS	APPLICATION
LREP	MILLEN, WHITE, ZELANO & BRANIGAN, P.C., 2200 CLARENDON BLVD., SUITE 1400, ARLINGTON, VA, 22201
CLMN	Number of Claims: 29
ECL	Exemplary Claim: 1
DRWN	1 Drawing Page(s)
LN.CNT	1670
AB	The present invention relates to a composition comprising an aqueous or hydroalcoholic extract of bauhinia and to the use of an aqueous or hydroalcoholic extract of bauhinia for the preparation of a composition for the care, preservation or improvement of the general state of the skin or hair, for the prophylaxis or prevention of human skin or human hair ageing processes and for the prophylaxis and/or treatment of diseases associated with skin ageing.

L19 ANSWER 5 OF 20 USPATFULL on STN

Full Text	Citing References
AN	2004:298768 USPATFULL
TI	Composition comprising soy and use thereof in the prevention and/or treatment of various diseases
IN	Hoie, Lars Henrik, Blenheim, UNITED KINGDOM
PI	US 2004234631 A1 20041125
AI	US 2004-482537 A1 20040628 (10)
	WO 2002-IB2587 20020703
PRAI	EP 2001-610069 20010703
DT	Utility
FS	APPLICATION
LREP	Gabor L. Szekeres, Law Offices of Gabor L. Szekeres, Suite 112, 8141

Kaiser Boulevard, Anaheim, CA, 92808

CLMN Number of Claims: 84

ECL Exemplary Claim: 1

DRWN 25 Drawing Page(s)

LN.CNT 5037

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention concerns soy protein, phytoestrogens, phospholipids, and dietary fibers and compositions thereof suitable for preventing, treating and/or alleviating cardiovascular diseases such as hypercholesterolemia, hypertriglyceridemia, hyperlipidemia arteriosclerosis, hypertension and related cardiovascular diseases, for preventing and/or treating type 2 diabetes and/or the metabolic syndrome, and for preventing, treating and/or alleviating pulmonary diseases.

L19 ANSWER 6 OF 20 USPATFULL on STN

Full Text	Citing References
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AN 2004:57011 USPATFULL

TI Metabolic uncoupling therapy

IN McCleary, Edward Larry, Golden, CO, UNITED STATES

PI US 2004043013 A1 20040304

AI US 2003-462958 A1 20030617 (10)

RLI Continuation-in-part of Ser. No. US 2000-749584, filed on 28 Dec 2000, GRANTED, Pat. No. US 6579866

DT Utility

FS APPLICATION

LREP PATTON BOGGS, PO BOX 270930, LOUISVILLE, CO, 80027

CLMN Number of Claims: 40

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 2134

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A combination of chemical agents reduces reductive stress by limiting the accumulation of high-energy electrons potentially available to the electron transport chain. A method of metabolic uncoupling therapy comprises: analyzing a specific physiologic process involving reductive stress; identifying a plurality of MUT agents that modulate metabolic pathways by influencing electron flux; and formulating a combination of MUT agents that limits the accumulation of high-energy electrons potentially available to the electron transport chain.

L19 ANSWER 7 OF 20 USPATFULL on STN

Full Text	Citing References
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AN 2004:45037 USPATFULL

TI Formulations for the prevention and treatment of insulin resistance and type 2 diabetes mellitus

IN Richardson, Kenneth T., Anchorage, AK, UNITED STATES

Pearson, Don C., Lakewood, WA, UNITED STATES

PA ChronoRX LLC, Anchorage, AK (U.S. corporation)

PI US 2004034030 A1 20040219

AI US 2003-630436 A1 20030730 (10)

RLI Division of Ser. No. US 2001-33730, filed on 2 Nov 2001, PENDING

PRAI US 2000-245471P 20001103 (60)

US 2000-245950P 20001103 (60)

US 2000-256033P 20001213 (60)

DT Utility

FS APPLICATION

LREP TOWNSEND AND TOWNSEND AND CREW, LLP, TWO EMBARCADERO CENTER, EIGHTH

FLOOR, SAN FRANCISCO, CA, 94111-3834  
CLMN Number of Claims: 104  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 4462

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The compositions and dosage forms of the invention are clinically useful as methods for increasing the effectiveness, efficiency and safety of biguanides (metformin) and/or sulfonylureas in the prevention and ~~treatment of insulin resistance~~ and diabetes mellitus, alone or in combination, as a nutrient for humans. The carefully chosen active ingredients of the invention are designed in a modular fashion to prevent and rectify adverse events associated with insulin resistance syndrome and diabetes mellitus, and with the clinical use of biguanides (metformin) and/or the sulfonylureas. These modules are: (1) Mitochondrial Metabolic Group, (2) Plasma and Mitochondrial Membrane Integrity Group, (3) Nocturnal Group and, (4) Insulin Alternative Group. When used in concert with a biguanide, a sulfonylurea or with a combination of both, the invention will broaden the clinical usefulness of these drugs. The invention will retard the progression of insulin resistance to type 2 diabetes, and reduce the serious microvascular and macrovascular complications commonly associated with insulin resistance syndrome and diabetes mellitus.

L19 ANSWER 8 OF 20 USPATFULL on STN

Full Text	Citing References
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AN 2004:13492 USPATFULL  
TI Pyridoxine and **pyridoxal** analogues: new uses  
IN Haque, Wasimul, Edmonton, CANADA  
PI US 2004010015 A1 20040115  
US 6897228 B2 20050524  
AI US 2003-411552 A1 20030410 (10)  
RLI Continuation-in-part of Ser. No. US 2001-900718, filed on 6 Jul 2001, GRANTED, Pat. No. US 6417204 Continuation-in-part of Ser. No. US 2002-147263, filed on 15 May 2002, GRANTED, Pat. No. US 6549519  
DT Utility  
FS APPLICATION  
LREP MERCHANT & GOULD PC, P.O. BOX 2903, MINNEAPOLIS, MN, 55402-0903  
CLMN Number of Claims: 40  
ECL Exemplary Claim: 1  
DRWN 1 Drawing Page(s)  
LN.CNT 1779

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention provides **pyridoxal** and pyridoxine analogues, pharmaceutical compositions containing pyridoxine and **pyridoxal** analogues, and methods of administering pharmaceutical compositions containing a therapeutically effective amount of at least one of these analogues. In accordance with the present invention, the **pyridoxal** and pyridoxine analogues can be used in the treatment or prevention of heparin induced thrombocytopenia (HIT, stroke, and ischemia, and in the treatment of symptoms thereof. The the **pyridoxal** and pyridoxine analogues can be used in neuroprotection.

L19 ANSWER 9 OF 20 USPATFULL on STN

Full Text	Citing References
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AN 2003:277209 USPATFULL  
TI **Pyridoxal** analogues and methods of treatment  
IN Haque, Wasimul, Edmonton, CANADA

PA Medicure Inc., Winnipeg, CANADA (non-U.S. corporation)  
 The University of Manitoba, Winnipeg, CANADA (non-U.S. corporation)  
 PI US 2003195236 A1 20031016  
 AI US 2003-453414 A1 20030603 (10)  
 RLI Continuation of Ser. No. US 2001-863093, filed on 22 May 2001, PENDING  
 Division of Ser. No. US 2000-520194, filed on 7 Mar 2000, GRANTED, Pat.  
 No. US 6339085  
 PRAI US 1999-125881P 19990324 (60)  
 US 1999-123698P 19990308 (60)  
 DT Utility  
 FS APPLICATION  
 LREP Attention: Anna M. Nelson, MERCHANT & GOULD P.C., P.O. Box 2903,  
 Minneapolis, MN, 55402-0903  
 CLMN Number of Claims: 108  
 ECL Exemplary Claim: 1  
 DRWN 4 Drawing Page(s)  
 LN.CNT 1356  
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB **Pyridoxal** analogues can be useful for treating B<sub>6</sub> deficiency and  
 related diseases; cardiovascular and related diseases; melanoma and  
 related diseases; and symptoms thereof. One such analogue is a compound  
 of the formula: ##STR1##

or a pharmaceutically acceptable acid addition salt thereof, in which  
 R<sub>1</sub> is alkyl, alkenyl, in which alkyl or alkenyl can be interrupted  
 by nitrogen, oxygen, or sulfur, and can be substituted at the terminal  
 carbon by hydroxy, alkoxy, alkanoyloxy, alkanoyloxyaryl, alkoxyalkanoyl,  
 alkoxyacarbonyl, or dialkylcarbamoxyloxy; alkoxy; dialkylamino;  
 alkanoyloxy; alkanoyloxyaryl; alkoxyalkanoyl; alkoxyacarbonyl;  
 dialkylcarbamoxyloxy; or aryl, aryloxy, arylthio, or aralkyl, in which  
 aryl can be substituted by alkyl, alkoxy, amino, hydroxy, halo, nito, or  
 alkanoyloxy. These analogues can be administered, either alone or  
 concurrently with known medications, to treat the above-described  
 diseases.

L19 ANSWER 10 OF 20 USPATFULL on STN

Full Text	Citing References
AN	2003:113528 USPATFULL
TI	Biguanide and sulfonylurea formulations for the prevention and treatment of insulin resistance and type 2 diabetes mellitus
IN	Pearson, Don C., Lakewood, WA, UNITED STATES Richardson, Kenneth T., Anchorage, AK, UNITED STATES
PA	ChronoRX, LLC, Anchorage, AK, UNITED STATES (U.S. corporation)
PI	US 2003078269 A1 20030424 US 6693094 B2 20040217
AI	US 2002-93476 A1 20020307 (10)
PRAI	US 2001-278270P 20010322 (60) US 2001-278271P 20010322 (60) US 2001-278296P 20010322 (60)
DT	Utility
FS	APPLICATION
LREP	TOWNSEND AND TOWNSEND AND CREW, LLP, TWO EMBARCADERO CENTER, EIGHTH FLOOR, SAN FRANCISCO, CA, 94111-3834
CLMN	Number of Claims: 130
ECL	Exemplary Claim: 1
DRWN	No Drawings
LN.CNT	4927
CAS INDEXING IS AVAILABLE FOR THIS PATENT.	
AB	The invention describes formulations that include either metformin,

sulfonylurea or a biguanide-sulfonylurea combination as one active ingredient in addition to specific, other active ingredients. The compositions and dosage forms of the invention are clinically useful as methods for increasing the effectiveness, efficiency and safety of the included biguanide (metformin) and/or sulfonylurea in the prevention and treatment of insulin resistance and diabetes mellitus. The carefully chosen additional active ingredients of the invention are designed in a modular fashion to prevent and rectify adverse events associated with insulin resistance syndrome and diabetes mellitus, and those adverse incidences associated with the concurrent use of metformin and/or the sulfonylureas. When clinically administered, the invention will provide therapeutic levels of metformin and of a sulfonylurea, alone or in combination, and broaden their usefulness. The invention will retard the progression of insulin resistance to type 2 diabetes, and reduce the serious microvascular and macrovascular complications commonly associated with insulin resistance syndrome and diabetes mellitus.

L19 ANSWER 11 OF 20 USPATFULL on STN

	Full Text	Citing References
AN	2003:112870	USPATFULL
TI	Nucleic acids, proteins, and antibodies	
IN	Rosen, Craig A., Laytonsville, MD, UNITED STATES Ruben, Steven M., Olney, MD, UNITED STATES Barash, Steven C., Rockville, MD, UNITED STATES	
PA	Human Genome Sciences, Inc., Rockville, MD (U.S. corporation)	
PI	US 2003077602	A1 20030424
AI	US 2002-73961	A1 20020214 (10)
RLI	Continuation of Ser. No. US 2001-764887, filed on 17 Jan 2001, ABANDONED	
PRAI	US 2000-179065P	20000131 (60)
	US 2000-180628P	20000204 (60)
	US 2000-214886P	20000628 (60)
	US 2000-217487P	20000711 (60)
	US 2000-225758P	20000814 (60)
	US 2000-220963P	20000726 (60)
	US 2000-217496P	20000711 (60)
	US 2000-225447P	20000814 (60)
	US 2000-218290P	20000714 (60)
	US 2000-225757P	20000814 (60)
	US 2000-226868P	20000822 (60)
	US 2000-216647P	20000707 (60)
	US 2000-225267P	20000814 (60)
	US 2000-216880P	20000707 (60)
	US 2000-225270P	20000814 (60)
	US 2000-251869P	20001208 (60)
	US 2000-235834P	20000927 (60)
	US 2000-234274P	20000921 (60)
	US 2000-234223P	20000921 (60)
	US 2000-228924P	20000830 (60)
	US 2000-224518P	20000814 (60)
	US 2000-236369P	20000929 (60)
	US 2000-224519P	20000814 (60)
	US 2000-220964P	20000726 (60)
	US 2000-241809P	20001020 (60)
	US 2000-249299P	20001117 (60)
	US 2000-236327P	20000929 (60)
	US 2000-241785P	20001020 (60)
	US 2000-244617P	20001101 (60)
	US 2000-225268P	20000814 (60)
	US 2000-236368P	20000929 (60)

<u>US 2000-251856P</u>	20001208 (60)
<u>US 2000-251868P</u>	20001208 (60)
<u>US 2000-229344P</u>	20000901 (60)
<u>US 2000-234997P</u>	20000925 (60)
<u>US 2000-229343P</u>	20000901 (60)
<u>US 2000-229345P</u>	20000901 (60)
<u>US 2000-229287P</u>	20000901 (60)
<u>US 2000-229513P</u>	20000905 (60)
<u>US 2000-231413P</u>	20000908 (60)
<u>US 2000-229509P</u>	20000905 (60)
<u>US 2000-236367P</u>	20000929 (60)
<u>US 2000-237039P</u>	20001002 (60)
<u>US 2000-237038P</u>	20001002 (60)
<u>US 2000-236370P</u>	20000929 (60)
<u>US 2000-236802P</u>	20001002 (60)
<u>US 2000-237037P</u>	20001002 (60)
<u>US 2000-237040P</u>	20001002 (60)
<u>US 2000-240960P</u>	20001020 (60)
<u>US 2000-239935P</u>	20001013 (60)
<u>US 2000-239937P</u>	20001013 (60)
<u>US 2000-241787P</u>	20001020 (60)
<u>US 2000-246474P</u>	20001108 (60)
<u>US 2000-246532P</u>	20001108 (60)
<u>US 2000-249216P</u>	20001117 (60)
<u>US 2000-249210P</u>	20001117 (60)
<u>US 2000-226681P</u>	20000822 (60)
<u>US 2000-225759P</u>	20000814 (60)
<u>US 2000-225213P</u>	20000814 (60)
<u>US 2000-227182P</u>	20000822 (60)
<u>US 2000-225214P</u>	20000814 (60)
<u>US 2000-235836P</u>	20000927 (60)
<u>US 2000-230438P</u>	20000906 (60)
<u>US 2000-215135P</u>	20000630 (60)
<u>US 2000-225266P</u>	20000814 (60)
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<u>US 2000-249245P</u>	20001117 (60)
<u>US 2000-249244P</u>	20001117 (60)
<u>US 2000-249217P</u>	20001117 (60)
<u>US 2000-249211P</u>	20001117 (60)
<u>US 2000-249215P</u>	20001117 (60)
<u>US 2000-249264P</u>	20001117 (60)
<u>US 2000-249214P</u>	20001117 (60)
<u>US 2000-249297P</u>	20001117 (60)
<u>US 2000-232400P</u>	20000914 (60)
<u>US 2000-231242P</u>	20000908 (60)
<u>US 2000-232081P</u>	20000908 (60)
<u>US 2000-232080P</u>	20000908 (60)
<u>US 2000-231414P</u>	20000908 (60)
<u>US 2000-231244P</u>	20000908 (60)
<u>US 2000-233064P</u>	20000914 (60)
<u>US 2000-233063P</u>	20000914 (60)
<u>US 2000-232397P</u>	20000914 (60)
<u>US 2000-232399P</u>	20000914 (60)
<u>US 2000-232401P</u>	20000914 (60)
<u>US 2000-241808P</u>	20001020 (60)
<u>US 2000-241826P</u>	20001020 (60)

US 2000-241786P	20001020 (60)
US 2000-241221P	20001020 (60)
US 2000-246475P	20001108 (60)
US 2000-231243P	20000908 (60)
US 2000-233065P	20000914 (60)
US 2000-232398P	20000914 (60)
US 2000-234998P	20000925 (60)
US 2000-246477P	20001108 (60)
US 2000-246528P	20001108 (60)
US 2000-246525P	20001108 (60)
US 2000-246476P	20001108 (60)
US 2000-246526P	20001108 (60)
US 2000-249209P	20001117 (60)
US 2000-246527P	20001108 (60)
US 2000-246523P	20001108 (60)
US 2000-246524P	20001108 (60)
US 2000-246478P	20001108 (60)
US 2000-246609P	20001108 (60)
US 2000-246613P	20001108 (60)
US 2000-249300P	20001117 (60)
US 2000-249265P	20001117 (60)
US 2000-246610P	20001108 (60)
US 2000-246611P	20001108 (60)
US 2000-230437P	20000906 (60)
US 2000-251990P	20001208 (60)
US 2000-251988P	20001205 (60)
US 2000-251030P	20001205 (60)
US 2000-251479P	20001206 (60)
US 2000-256719P	20001205 (60)
US 2000-250160P	20001201 (60)
US 2000-251989P	20001208 (60)
US 2000-250391P	20001201 (60)
US 2000-254097P	20001211 (60)
US 2000-231968P	20000912 (60)
US 2000-226279P	20000818 (60)
US 2000-186350P	20000302 (60)
US 2000-184664P	20000224 (60)
US 2000-189874P	20000316 (60)
US 2000-198123P	20000418 (60)
US 2000-227009P	20000823 (60)
US 2000-235484P	20000926 (60)
US 2000-190076P	20000317 (60)
US 2000-209467P	20000607 (60)
US 2000-205515P	20000519 (60)
US 2001-259678P	20010105 (60)

DT Utility

FS APPLICATION

LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850

CLMN Number of Claims: 24

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 19799

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to novel liver related polynucleotides and the polypeptides encoded by these polynucleotides herein collectively known as "liver antigens," and the use of such liver antigens for detecting disorders of the liver, particularly the presence of cancer of liver and cancer metastases. More specifically, isolated liver associated nucleic acid molecules are provided encoding novel liver associated polypeptides. Novel liver polypeptides and antibodies that

bind to these polypeptides are provided. Also provided are vectors, host cells, and recombinant and synthetic methods for producing human liver associated polynucleotides and/or polypeptides. The invention further relates to diagnostic and therapeutic methods useful for diagnosing, treating, preventing and/or prognosing disorders related to the liver, including cancer of liver tissues, and therapeutic methods for treating such disorders. The invention further relates to screening methods for identifying agonists and antagonists of polynucleotides and polypeptides of the invention. The present invention further relates to methods and/or compositions for inhibiting the production and function of the polypeptides of the present invention.

L19 ANSWER 12 OF 20 USPATFULL on STN

	Full Text	Citing References
AN	2003:112605 USPATFULL	
TI	Formulations for the prevention and treatment of insulin resistance and type 2 diabetes mellitus	
IN	Richardson, Kenneth T., Anchorage, AK, UNITED STATES Pearson, Don C., Lakewood, WA, UNITED STATES	
PA	ChronoRX LLC, Anchorage, AK (U.S. corporation)	
PI	US 2003077335	A1 20030424
	US 6689385	B2 20040210
AI	US 2001-33730	A1 20011102 (10)
PRAI	US 2000-245471P	20001103 (60)
	US 2000-245950P	20001103 (60)
	US 2000-256033P	20001213 (60)
DT	Utility	
FS	APPLICATION	
LREP	TOWNSEND AND TOWNSEND AND CREW, LLP, TWO EMBARCADERO CENTER, EIGHTH FLOOR, SAN FRANCISCO, CA, 94111-3834	
CLMN	Number of Claims: 104	
ECL	Exemplary Claim: 1	
DRWN	No Drawings	
LN.CNT	4450	
CAS INDEXING IS AVAILABLE FOR THIS PATENT.		
AB	<p>The compositions and dosage forms of the invention are clinically useful as methods for increasing the effectiveness, efficiency and safety of biguanides (metformin) and/or sulfonylureas in the prevention and treatment of insulin resistance and diabetes mellitus, alone or in combination, as a nutrient for humans. The carefully chosen active ingredients of the invention are designed in a modular fashion to prevent and rectify adverse events associated with insulin resistance syndrome and diabetes mellitus, and with the clinical use of biguanides (metformin) and/or the sulfonylureas. These modules are: (1) Mitochondrial Metabolic Group, (2) Plasma and Mitochondrial Membrane Integrity Group, (3) Nocturnal Group and, (4) Insulin Alternative Group. When used in concert with a biguanide, a sulfonylurea or with a combination of both, the invention will broaden the clinical usefulness of these drugs. The invention will retard the progression of insulin resistance to type 2 diabetes, and reduce the serious microvascular and macrovascular complications commonly associated with insulin resistance syndrome and diabetes mellitus.</p>	

L19 ANSWER 13 OF 20 USPATFULL on STN

	Full Text	Citing References
AN	2003:136822 USPATFULL	
TI	Nutritional supplement for children	
IN	Chandra, Ranjit Kumar, Harvana, INDIA	

PA Tsar Health Private Ltd., INDIA (non-U.S. corporation)  
PI US 6565891 B1 20030520  
AI US 2002-226195 20020823 (10)  
DT Utility  
FS GRANTED  
EXNAM Primary Examiner: Pak, John  
LREP Liniak, Berenato & White  
CLMN Number of Claims: 5  
ECL Exemplary Claim: 1  
DRWN 2 Drawing Figure(s); 2 Drawing Page(s)

LN.CNT 748

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A multivitamin nutritional supplement is provided that is designed to be most effective in optimizing health, increasing the immunity and decreasing the instances and severity of infection particularly among children.

L19 ANSWER 14 OF 20 USPATFULL on STN

Full Text	Citing References
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AN 2003:129702 USPATFULL  
TI Nutritional supplement for adolescents  
IN Chandra, Renjit Kumar, Gurgaon, INDIA  
PA TSAR Health Private Ltd., INDIA (non-U.S. corporation)  
PI US 6562378 B1 20030513  
AI US 2002-219502 20020816 (10)  
DT Utility  
FS GRANTED  
EXNAM Primary Examiner: Pak, John  
LREP Liniak, Berenato & White  
CLMN Number of Claims: 5  
ECL Exemplary Claim: 1  
DRWN 2 Drawing Figure(s); 2 Drawing Page(s)  
LN.CNT 763

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A multivitamin nutritional supplement is provided that is designed to be most effective in optimizing health, increasing the immunity and decreasing the instances and severity of infection particularly among adolescents.

L19 ANSWER 15 OF 20 USPATFULL on STN

Full Text	Citing References
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AN 2003:102386 USPATFULL  
TI Pyridoxine and **pyridoxal** analogues: novel uses  
IN Haque, Wasimul, Edmonton, CANADA  
PA Medisure International Inc., West Indies, BARBADOS (non-U.S. corporation)  
PI US 6548519 B1 20030415  
AI US 2002-147263 20020515 (10)  
RLI Continuation-in-part of Ser. No. US 2001-900718, filed on 6 Jul 2001, now patented, Pat. No. US 6417204  
DT Utility  
FS GRANTED  
EXNAM Primary Examiner: Davis, Zinna Northington  
LREP Merchant & Gould P.C.  
CLMN Number of Claims: 8  
ECL Exemplary Claim: 1  
DRWN 2 Drawing Figure(s); 1 Drawing Page(s)  
LN.CNT 1809

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention provides **pyridoxal** and pyridoxine analogues, pharmaceutical compositions containing pyridoxine and **pyridoxal** analogues, and methods of administering pharmaceutical compositions containing a therapeutically effective amount of at least one of these analogues. In accordance with the present invention, the **pyridoxal** and pyridoxine analogues can be used in the treatment of undesired platelet aggregation, and in the treatment of symptoms thereof.

L19 ANSWER 16 OF 20 USPATFULL on STN

Full Text	Citing References
AN	2002:119882 USPATFULL
TI	Dosage forms useful for modifying conditions and functions associated with hearing loss and/or tinnitus
IN	Pearson, Don C., Lakewood, WA, UNITED STATES Richardson, Kenneth T., Anchorage, AK, UNITED STATES
PI	US 2002061870 A1 20020523 US 6524619 B2 20030225
AI	US 2001-765974 A1 20010119 (9)
PRAI	US 2000-178487P 20000127 (60)
DT	Utility
FS	APPLICATION
LREP	M. Henry Heines, TOWNSEND and TOWNSEND and CREW LLP, Two Embarcadero Center, 8th Floor, San Francisco, CA, 94111-3834
CLMN	Number of Claims: 16
ECL	Exemplary Claim: 1
DRWN	No Drawings
LN.CNT	2057

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention defines interdependent biofactors and biomolecules, and clinically useful formulations that are comprised of them. The active agents are demonstrated to be complementary in their physiologic functions especially as these relate to the quenching of free radicals and to the support of endothelial physiology, the reduction of hyperinsulinemia and improvements in vascular health. The active components of the invention are selected for inclusion in precise combinations specifically because they improve these various conditions and physiological functions, and by so doing reduce a variety of risks associated with hearing loss and tinnitus. The resulting enhancement of general systemic vascular health, improvement in local VIII<sup>th</sup> nerve vascular health, modulation of conditions surrounding blood fluid dynamics, the consequences of hyperinsulinemia, and improvements in free radical defenses, all reduce the potential for cochlear hair cell death and VIII<sup>th</sup> nerve atrophy, and the hearing loss and possible deafness that accompany them.

L19 ANSWER 17 OF 20 USPATFULL on STN

Full Text	Citing References
AN	2002:78442 USPATFULL
TI	Nucleic acids, proteins, and antibodies
IN	Rosen, Craig A., Laytonsville, MD, UNITED STATES Ruben, Steven M., Olney, MD, UNITED STATES Barash, Steven C., Rockville, MD, UNITED STATES
PI	US 2002042096 A1 20020411
AI	US 2001-764887 A1 20010117 (9)
PRAI	US 2000-179065P 20000131 (60) US 2000-180628P 20000204 (60) US 2000-214886P 20000628 (60)

US 2000-217487P	20000711 (60)
US 2000-225758P	20000814 (60)
US 2000-220963P	20000726 (60)
US 2000-217496P	20000711 (60)
US 2000-225447P	20000814 (60)
US 2000-218290P	20000714 (60)
US 2000-225757P	20000814 (60)
US 2000-226868P	20000822 (60)
US 2000-216647P	20000707 (60)
US 2000-225267P	20000814 (60)
US 2000-216880P	20000707 (60)
US 2000-225270P	20000814 (60)
US 2000-251869P	20001208 (60)
US 2000-235834P	20000927 (60)
US 2000-234274P	20000921 (60)
US 2000-234223P	20000921 (60)
US 2000-228924P	20000830 (60)
US 2000-224518P	20000814 (60)
US 2000-236369P	20000929 (60)
US 2000-224519P	20000814 (60)
US 2000-220964P	20000726 (60)
US 2000-241809P	20001020 (60)
US 2000-249299P	20001117 (60)
US 2000-236327P	20000929 (60)
US 2000-241785P	20001020 (60)
US 2000-244617P	20001101 (60)
US 2000-225268P	20000814 (60)
US 2000-236368P	20000929 (60)
US 2000-251856P	20001208 (60)
US 2000-251868P	20001208 (60)
US 2000-229344P	20000901 (60)
US 2000-234997P	20000925 (60)
US 2000-229343P	20000901 (60)
US 2000-229345P	20000901 (60)
US 2000-229287P	20000901 (60)
US 2000-229513P	20000905 (60)
US 2000-231413P	20000908 (60)
US 2000-229509P	20000905 (60)
US 2000-236367P	20000929 (60)
US 2000-237039P	20001002 (60)
US 2000-237038P	20001002 (60)
US 2000-236370P	20000929 (60)
US 2000-236802P	20001002 (60)
US 2000-237037P	20001002 (60)
US 2000-237040P	20001002 (60)
US 2000-240960P	20001020 (60)
US 2000-239935P	20001013 (60)

DT Utility

FS APPLICATION

LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850

CLMN Number of Claims: 24

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 19583

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to novel liver related polynucleotides and the polypeptides encoded by these polynucleotides herein collectively known as "liver antigens," and the use of such liver antigens for detecting disorders of the liver, particularly the presence of cancer of liver and cancer metastases. More specifically, isolated liver

associated nucleic acid molecules are provided encoding novel liver associated polypeptides. Novel liver polypeptides and antibodies that bind to these polypeptides are provided. Also provided are vectors, host cells, and recombinant and synthetic methods for producing human liver associated polynucleotides and/or polypeptides. The invention further relates to diagnostic and therapeutic methods useful for diagnosing, treating, preventing and/or prognosing disorders related to the liver, including cancer of liver tissues, and therapeutic methods for treating such disorders. The invention further relates to screening methods for identifying agonists and antagonists of polynucleotides and polypeptides of the invention. The present invention further relates to methods and/or compositions for inhibiting the production and function of the polypeptides of the present invention.

L19 ANSWER 18 OF 20 USPATFULL on STN

Full Text	Citing References
AN	2002:168238 USPATFULL
TI	Pyridoxine AMD <b>pyridoxal</b> analogues: cardiovascular therapeutics
IN	Haque, Wasimul, Edmonton, CANADA
PA	Medicure International Inc., St. James, BARBADOS (non-U.S. corporation)
PI	US 6417204 B1 20020709
AI	US 2001-900718 20010706 (9)
PRAI	US 2000-216907P 20000707 (60)
DT	Utility
FS	GRANTED
EXNAM	Primary Examiner: Davis, Zinna Northington
LREP	Merchant & Gould, P.C.
CLMN	Number of Claims: 41
ECL	Exemplary Claim: 1
DRWN	0 Drawing Figure(s); 0 Drawing Page(s)
LN.CNT	1554

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention provides **pyridoxal** and pyridoxine analogues, pharmaceutical compositions containing pyridoxine and **pyridoxal** analogues, and methods of administering pharmaceutical compositions containing a therapeutically effective amount of at least one of these analogues. In accordance with the present invention, the **pyridoxal** and pyridoxine analogues can be used in the treatment of cardiovascular or related diseases and in the treatment of symptoms thereof.

=> d his

(FILE 'HOME' ENTERED AT 18:08:56 ON 14 SEP 2005)

FILE 'CA, USPATFULL, BIOSIS, MEDLINE' ENTERED AT 18:09:35 ON 14 SEP 2005

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L1      19365 S VITAMIN B6
L2      34946 S (PYRIDOXAMINE OR PYRIDOXAL#####)
L3      87342 S (VERAPAMIL OR AMLODIPINE OR DILTIAZEM)
L4      301 S L2 AND L3
L5      141 S L4 AND HYPERTROPHY
L6      1 S L1 AND L5
L7      794 S L2 AND ((VITAMIN E) OR (VITAMIN C))
L8      58 S L7 AND HYPERTROPHY
L9      251 S L2 AND (ATENOLOL OR METOPROLOL OR PROPANOLOL)
L10     145 S L9 AND HYPERTROPHY
L11     182 S L10 OR L8 OR L5
L12     182 DUP REMOVE L11 (0 DUPLICATES REMOVED)
L13     8 S L12 AND VITAMIN B6

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L14 138 S L12 AND (CONGESTIVE (6A) HEART)  
 L15 1 S L14 AND L1  
 L16 13 S L14 AND HOMOCYSTEINE  
 L17 3 S L14 AND MICROVASCULATURE  
 L18 20 S L17 OR L16 OR L15 OR L13 OR L6  
 L19 20 DUP REMOVE L18 (0 DUPLICATES REMOVED)  
 L20 25 S L14 AND VASODILATOR  
 L21 38 S L19 OR L20  
 L22 18 S L21 NOT L19

=> d 119 19-20 bib,ab

L19 ANSWER 19 OF 20 USPTAFULL on STN

Full Text	Citing References
AN	2002:9870 USPTAFULL
TI	Therapeutics for cardiovascular and related diseases
IN	Haque, Wasimul, Edmonton, Alberta, CANADA
PA	The University of Manitoba, Winnipeg, CANADA (non-U.S. corporation) Medicore Inc., Winnipeg, CANADA (non-U.S. corporation)
PI	US 6339085 B1 20020115
AI	US 2000-520194 20000307 (9)
PRAI	US 1999-125881P 19990324 (60) US 1999-123698P 19990308 (60)
DT	Utility
FS	GRANTED
EXNAM	Primary Examiner: Lambkin, Deborah C.; Assistant Examiner: Wright, Sonya N.
LREP	Merchant & Gould P. C.
CLMN	Number of Claims: 57
ECL	Exemplary Claim: 1
DRWN	4 Drawing Figure(s); 4 Drawing Page(s)
LN.CNT	1249
CAS INDEXING IS AVAILABLE FOR THIS PATENT.	
AB	<p><b>Pyridoxal</b> analogues can be useful for treating B<sub>6</sub> efficiency and related diseases; cardiovascular and related diseases; melanoma and related diseases; and symptoms thereof. One such analogue is a compound of the formula: ##STR1##</p> <p>or a pharmaceutically acceptable acid addition salt thereof, in which R<sub>1</sub> is alkyl alkenyl, in which alkyl or alkenyl can be interrupted by nitrogen, oxygen, or sulfur, and can be substituted at the terminal carbon by hydroxy, alkoxy, alkanoyloxy, alkanoyloxyaryl, alkoxyalkanoyl, alkoxyacarbonyl, or dialkylcarbamoxyloxy; alkoxy; dialkylamino; alkanoyloxy; alkanoyloxyaryl; alkoxyalkanoyl; alkoxyacarbonyl; dialkylcarbamoxyloxy; or aryl, aryloxy, arylthio, or aralkyl, in which aryl can be substituted by alkyl, alkoxy, amino, hydroxy, halo, nito, or alkanoyloxy. These analogues can be administered, either alone or concurrently with known medications, to treat the above-described diseases.</p>

L19 ANSWER 20 OF 20 USPTAFULL on STN

Full Text	Citing References
AN	2001:182610 USPTAFULL
TI	<b>Pyridoxal</b> analogues and methods of treatment
IN	Haque, Wasimul, Edmonton, Canada
PA	Medicure Inc., Winnipeg, Canada (non-U.S. corporation)
PI	US 2001031770 A1 20011018 US 6890943 B2 20050510

AI US 2001-863093 A1 20010522 (9)  
 RLI Division of Ser. No. US 2000-520194, filed on 7 Mar 2000, PENDING  
 PRAI US 1999-123698P 19990308 (60)  
 US 1999-125881P 19990324 (60)  
 DT Utility  
 FS APPLICATION  
 LREP Attention of Andrew J. Leon, MERCHANT & GOULD P.C., P.O. Box 2903,  
 Minneapolis, MN, 55402-0903  
 CLMN Number of Claims: 108  
 ECL Exemplary Claim: 1  
 DRWN 4 Drawing Page(s)  
 LN.CNT 1356

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB **Pyridoxal** analogues can be useful for treating B<sub>6</sub> deficiency and related diseases; cardiovascular and related diseases; melanoma and related diseases; and symptoms thereof. One such analogue is a compound of the formula: ##STR1##

or a pharmaceutically acceptable acid addition salt thereof, in which R<sub>1</sub> is alkyl, alkenyl, in which alkyl or alkenyl can be interrupted by nitrogen, oxygen, or sulfur, and can be substituted at the terminal carbon by hydroxy, alkoxy, alkanoyloxy, alkanoyloxyaryl, alkoxyalkanoyl, alkoxyacarbonyl, or dialkylcarbamoxyloxy; alkoxy; dialkylamino; alkanoyloxy; alkanoyloxyaryl; alkoxyalkanoyl; alkoxyacarbonyl; dialkylcarbamoxyloxy; or aryl, aryloxy, arylthio, or aralkyl, in which aryl can be substituted by alky, alkoxy, amino, hydroxy, halo, nito, or alkanoyloxy. These analogues can be administered, either alone or concurrently with known medications, to treat the above-described diseases.

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FILE 'CA, USPATFULL, BIOSIS, MEDLINE' ENTERED AT 18:09:35 ON 14 SEP 2005

L1 19365 S VITAMIN B6  
 L2 34946 S (PYRIDOXAMINE OR PYRIDOXAL#####)  
 L3 87342 S (VERAPAMIL OR AMLODIPINE OR DILTIAZEM)  
 L4 301 S L2 AND L3  
 L5 141 S L4 AND HYPERTROPHY  
 L6 1 S L1 AND L5  
 L7 794 S L2 AND ((VITAMIN E) OR (VITAMIN C))  
 L8 58 S L7 AND HYPERTROPHY  
 L9 251 S L2 AND (ATENOLOL OR METOPROLOL OR PROPRANOLOL)  
 L10 145 S L9 AND HYPERTROPHY  
 L11 182 S L10 OR L8 OR L5  
 L12 182 DUP REMOVE L11 (0 DUPLICATES REMOVED)  
 L13 8 S L12 AND VITAMIN B6  
 L14 138 S L12 AND (CONGESTIVE (6A) HEART)  
 L15 1 S L14 AND L1  
 L16 13 S L14 AND HOMOCYSTEINE  
 L17 3 S L14 AND MICROVASCULATURE  
 L18 20 S L17 OR L16 OR L15 OR L13 OR L6  
 L19 20 DUP REMOVE L18 (0 DUPLICATES REMOVED)  
 L20 25 S L14 AND VASODILATOR  
 L21 38 S L19 OR L20  
 L22 18 S L21 NOT L19

=> d 122 1-88 bib,ab

L22 ANSWER 1 OF 18 USPATFULL on STN

Full Text	Citing References
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AN 2004:240262 USPATFULL  
TI Novel heteroaryl phosphonates as cardioprotective agents  
IN Diakur, James, Winnipeg, CANADA  
Haque, Wasimul, Edmonton, CANADA  
Zhang, Wenlian, Winnipeg, CANADA  
Yao, Junzhi, Winnipeg, CANADA  
Pham, Vinh, Winnipeg, CANADA  
PA Medicure International Inc., St. James, BARBADOS (non-U.S. corporation)  
PI US 2004186077 A1 20040923  
AI US 2003-391056 A1 20030317 (10)  
DT Utility  
FS APPLICATION  
LREP MERCHANT & GOULD PC, P.O. BOX 2903, MINNEAPOLIS, MN, 55402-0903  
CLMN Number of Claims: 44  
ECL Exemplary Claim: 1  
DRWN 2 Drawing Page(s)  
LN.CNT 1481

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention teaches compound of general formula: ##STR1##.

Wherein:

R<sub>1</sub> is selected from H and CH<sub>3</sub>, and R<sub>2</sub> is selected from H and OH, or R<sub>1</sub> and R<sub>2</sub> together form an optionally substituted phenyl ring which is fused to the pyridine ring; and

R<sub>3</sub> is selected from H, CH<sub>3</sub>, CH<sub>2OH</sub> and ##STR2##

R<sub>4</sub> is selected from H, CH<sub>3</sub>, CH<sub>2OH</sub>, ##STR3##

R<sub>5</sub> is selected from H, phenyl, halogen-substituted phenyl and ##STR4##

Wherein R<sub>6</sub> and R<sub>7</sub> are each independently selected from H, Na<sup>+</sup>, K<sup>+</sup>, alkyl and optionally substituted aryl, and X and Y are each independently selected from H, OH and F, or at least one of X and Y is an heteroatom and together with R<sub>3</sub> forms a bridge with the proviso that R<sub>4</sub> is ##STR5##

and N-oxides thereof, and biologically acceptable salts thereof, related compounds, related pharmaceutical compositions, and methods for treating various disorders using such compositions.

L22 ANSWER 2 OF 18 USPATFULL on STN

Full Text	Citing References
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AN 2004:221817 USPATFULL  
TI Cardioprotective phosphonates and malonates  
IN Haque, Wasimul, Edmonton, CANADA  
PI US 2004171588 A1 20040902  
AI US 2003-732037 A1 20031209 (10)  
RLI Continuation-in-part of Ser. No. US 2002-282325, filed on 28 Oct 2002, PENDING Division of Ser. No. US 2001-795689, filed on 28 Feb 2001, GRANTED, Pat. No. US 6605612  
PRAI US 2000-185899P 20000229 (60)

DT Utility  
FS APPLICATION  
LREP Merchant & Gould P.C., P.O. Box 2903, Minneapolis, MN, 55402-0903  
CLMN Number of Claims: 23  
ECL Exemplary Claim: 1  
DRWN 2 Drawing Page(s)  
LN.CNT 1690  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
AB The present invention provides for pyridoxine phosphonate analogues, pharmaceutical compositions, and methods for treatment of cardiovascular and related diseases.

L22 ANSWER 3 OF 18 USPATFULL on STN

Full Text	Citing References
AN	2004:51514 USPATFULL
TI	Treatment of cardiovascular and related pathologies
IN	Sethi, Rajat, Winnipeg, CANADA Haque, Wasimul, Edmonton, CANADA
PA	Medicure International Inc. (non-U.S. corporation)
PI	US 2004038945 A1 20040226
AI	US 2003-639948 A1 20030812 (10)
RLI	Division of Ser. No. US 2000-645237, filed on 24 Aug 2000, PENDING
PRAI	US 1999-150415P 19990824 (60)
DT	Utility
FS	APPLICATION
LREP	MERCHANT & GOULD PC, P.O. BOX 2903, MINNEAPOLIS, MN, 55402-0903
CLMN	Number of Claims: 8
ECL	Exemplary Claim: 1
DRWN	34 Drawing Page(s)
LN.CNT	1172
CAS INDEXING IS AVAILABLE FOR THIS PATENT.	
AB	Methods for treating cardiovascular and related diseases such as <b>hypertrophy</b> are described. The methods are directed to concurrently administering a compound such as <b>pyridoxal-5'-phosphate</b> , <b>pyridoxamine</b> , <b>pyridoxal</b> , or a 3-acylated <b>pyridoxal</b> analogue with a therapeutic cardiovascular compound.

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L22 ANSWER 4 OF 18 USPATFULL on STN

Full Text	Citing References
AN	2004:45000 USPATFULL
TI	Treatment of cardiovascular and related pathologies
IN	Sethi, Rajat, Winnipeg, CANADA Haque, Wasimul, Edmonton, CANADA
PA	Medicure International Inc. (non-U.S. corporation)
PI	US 2004033993 A1 20040219
AI	US 2003-639955 A1 20030812 (10)
RLI	Division of Ser. No. US 2000-645237, filed on 24 Aug 2000, PENDING
PRAI	US 1999-150415P 19990824 (60)
DT	Utility
FS	APPLICATION
LREP	Attention of Anna M. Nelson, MERCHANT & GOULD P.C., P.O. Box 2903, Minneapolis, MN, 55402-0903
CLMN	Number of Claims: 30
ECL	Exemplary Claim: 1
DRWN	34 Drawing Page(s)
LN.CNT	1272
CAS INDEXING IS AVAILABLE FOR THIS PATENT.	
AB	Methods for treating cardiovascular and related diseases such as

ischemia, ischemia reperfusion injuries, and myocardial ischemia, are described. The methods are directed to concurrently administering a compound such as **pyridoxal-5'-phosphate**, **pyridoxamine**, **pyridoxal**, or a 3-acylated **pyridoxal** analogue with a therapeutic cardiovascular compound.

L22 ANSWER 5 OF 18 USPATFULL on STN

Full Text	Citing References
AN	2004:44999 USPATFULL
TI	Treatment of cardiovascular and related pathologies
IN	Sethi, Rajat, Winnipeg, CANADA Haque, Wasimul, Edmonton, CANADA
PA	Medicure International Inc., West Indies, BARBADOS (non-U.S. corporation)
PI	US 2004033992 A1 20040219
AI	US 2003-639950 A1 20030812 (10)
RLI	Division of Ser. No. US 2000-645237, filed on 24 Aug 2000, PENDING
PRAI	US 1999-150415P 19990824 (60)
DT	Utility
FS	APPLICATION
LREP	MERCHANT & GOULD PC, P.O. BOX 2903, MINNEAPOLIS, MN, 55402-0903
CLMN	Number of Claims: 10
ECL	Exemplary Claim: 1
DRWN	34 Drawing Page(s)
LN.CNT	1178

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Methods for treating cardiovascular and related diseases such as **congestive heart** failure are described. The methods are directed to concurrently administering a compound such as **pyridoxal-5'-phosphate**, **pyridoxamine**, **pyridoxal**, or a 3-acylated **pyridoxal** analogue with a therapeutic cardiovascular compound.

L22 ANSWER 6 OF 18 USPATFULL on STN

Full Text	Citing References
AN	2004:44998 USPATFULL
TI	Treating of cardiovascular and related pathologies
IN	Sethi, Rajat, Winnipeg, CANADA Haque, Wasimul, Edmonton, CANADA
PA	Medicure International Inc. (non-U.S. corporation)
PI	US 2004033991 A1 20040219
AI	US 2003-639949 A1 20030812 (10)
RLI	Division of Ser. No. US 2000-645237, filed on 24 Aug 2000, PENDING
PRAI	US 1999-150415P 19990824 (60)
DT	Utility
FS	APPLICATION
LREP	MERCHANT & GOULD PC, P.O. BOX 2903, MINNEAPOLIS, MN, 55402-0903
CLMN	Number of Claims: 6
ECL	Exemplary Claim: 1
DRWN	34 Drawing Page(s)
LN.CNT	1167

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Methods for treating cardiovascular and related diseases such as blood clots are described. The methods are directed to concurrently administering a compound such as **pyridoxal-5'-phosphate**, **pyridoxamine**, **pyridoxal**, or a 3-acylated **pyridoxal** analogue with a therapeutic cardiovascular compound.

L22 ANSWER 7 OF 18 USPATFULL on STN

Full Text	Citing References
AN	2004:44997 USPATFULL
TI	Treatment of cardiovascular and related pathologies
IN	Sethi, Rajat, Winnipeg, CANADA Haque, Wasimul, Edmonton, CANADA
PA	Medicure International Inc. (non-U.S. corporation)
PI	US 2004033990 A1 20040219
AI	US 2003-639877 A1 20030812 (10)
RLI	Division of Ser. No. US 2000-645237, filed on 24 Aug 2000, PENDING
PRAI	US 1999-150415P 19990824 (60)
DT	Utility
FS	APPLICATION
LREP	MERCHANT & GOULD PC, P.O. BOX 2903, MINNEAPOLIS, MN, 55402-0903
CLMN	Number of Claims: 10
ECL	Exemplary Claim: 1
DRWN	34 Drawing Page(s)
LN.CNT	1179
CAS INDEXING IS AVAILABLE FOR THIS PATENT.	
AB	Methods for treating cardiovascular and related diseases such as myocardial infarction are described. The methods are directed to concurrently administering a compound such as <b>pyridoxal-5'-phosphate</b> , <b>pyridoxamine</b> , <b>pyridoxal</b> , or a 3-acylated <b>pyridoxal</b> analogue with a therapeutic cardiovascular compound.

L22 ANSWER 8 OF 18 USPATFULL on STN

Full Text	Citing References
AN	2004:44996 USPATFULL
TI	Treatment of cardiovascular and related pathologies
IN	Sethi, Rajat, Winnipeg, CANADA Haque, Wasimul, Edmonton, CANADA
PA	Medicure International Inc. (non-U.S. corporation)
PI	US 2004033989 A1 20040219
AI	US 2003-639876 A1 20030812 (10)
RLI	Division of Ser. No. US 2000-645237, filed on 24 Aug 2000, PENDING
PRAI	US 1999-150415P 19990824 (60)
DT	Utility
FS	APPLICATION
LREP	MERCHANT & GOULD PC, P.O. BOX 2903, MINNEAPOLIS, MN, 55402-0903
CLMN	Number of Claims: 7
ECL	Exemplary Claim: 1
DRWN	34 Drawing Page(s)
LN.CNT	1169
CAS INDEXING IS AVAILABLE FOR THIS PATENT.	
AB	Methods for treating cardiovascular and related diseases such as arrhythmia are described. The methods are directed to concurrently administering a compound such as <b>pyridoxal-5'-phosphate</b> , <b>pyridoxamine</b> , <b>pyridoxal</b> , or a 3-acylated <b>pyridoxal</b> analogue with a therapeutic cardiovascular compound.

L22 ANSWER 9 OF 18 USPATFULL on STN

Full Text	Citing References
AN	2004:9618 USPATFULL
TI	Treatment of cardiovascular and related pathologies
IN	Sethi, Rajat, Winnipeg, CANADA Haque, Wasimul, Edmonton, CANADA
PA	Medicure International Inc., Barbados, CAYMAN ISLANDS (non-U.S. corporation)

PI US 6677356 B1 20040113  
AI US 2000-645237 20000824 (9)  
PRAI US 1999-150415P 19990824 (60)  
 DT Utility  
 FS GRANTED  
 EXNAM Primary Examiner: Jones, Dwayne C.  
 LREP Merchant & Gould P.C.  
 CLMN Number of Claims: 36  
 ECL Exemplary Claim: 1  
 DRWN 34 Drawing Figure(s); 34 Drawing Page(s)  
 LN.CNT 1398

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Methods for treating cardiovascular and related diseases such as **hypertrophy**, hypertension, **congestive heart** failure, ischemia, ischemia reperfusion injuries in various organs, arrhythmia, and myocardial infarction, are described. The methods are directed to concurrently administering a compound such as **pyridoxal-5'-phosphate**, **pyridoxamine**, **pyridoxal**, or a 3-acylated **pyridoxal** analogue with a therapeutic cardiovascular compound.

L22 ANSWER 10 OF 18 USPATFULL on STN

Full Text	Citing References
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AN	2003:319260 USPATFULL
TI	28 human secreted proteins
IN	Rosen, Craig A., Laytonsville, MD, UNITED STATES Ruben, Steven M., Olney, MD, UNITED STATES Li, Yi, Sunnyvale, CA, UNITED STATES Zeng, Zhizhen, Landsdale, PA, UNITED STATES Kyaw, Hla, Frederick, MD, UNITED STATES Fischer, Carrie L., Burke, VA, UNITED STATES Li, Haodong, Gaithersburg, MD, UNITED STATES Soppet, Daniel R., Centreville, VA, UNITED STATES Gentz, Reiner L., Rockville, MD, UNITED STATES Wei, Ying-Fei, Berkeley, CA, UNITED STATES Moore, Paul A., Germantown, MD, UNITED STATES Young, Paul E., Gaithersburg, MD, UNITED STATES Greene, John M., Gaithersburg, MD, UNITED STATES Ferrie, Ann M., Painted Post, NY, UNITED STATES Hastings, Gregg A., Westlake Village, CA, UNITED STATES

PI US 2003225009 A1 20031204  
AI US 2002-58993 A1 20020130 (10)

RLI Continuation-in-part of Ser. No. US 2001-852659, filed on 11 May 2001, PENDING Continuation-in-part of Ser. No. US 1998-152060, filed on 11 Sep 1998, GRANTED, Pat. No. US 6448230 Continuation-in-part of Ser. No. US 2001-852797, filed on 11 May 2001, PENDING Continuation-in-part of Ser. No. US 1998-152060, filed on 11 Sep 1998, GRANTED, Pat. No. US 6448230 Continuation-in-part of Ser. No. US 2001-853161, filed on 11 May 2001, PENDING Continuation-in-part of Ser. No. US 1998-152060, filed on 11 Sep 1998, GRANTED, Pat. No. US 6448230 Continuation-in-part of Ser. No. WO 1998-US4858, filed on 12 Mar 1998, PENDING

PRAI US 2001-265583P 20010202 (60)  
US 2001-265583P 20010202 (60)  
US 2001-265583P 20010202 (60)  
US 2001-265583P 20010202 (60)  
US 1997-40762P 19970314 (60)  
US 1997-40710P 19970314 (60)  
US 1997-50934P 19970530 (60)  
US 1997-48100P 19970530 (60)  
US 1997-48357P 19970530 (60)

US 1997-48189P 19970530 (60)  
US 1997-57765P 19970905 (60)  
US 1997-48970P 19970606 (60)  
US 1997-68368P 19971219 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 23  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 29452

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to novel human secreted proteins and isolated nucleic acids containing the coding regions of the genes encoding such proteins. Also provided are vectors, host cells, antibodies, and recombinant methods for producing human secreted proteins. The invention further relates to diagnostic and therapeutic methods useful for diagnosing and treating diseases, disorders, and/or conditions related to these novel human secreted proteins.

L22 ANSWER 11 OF 18 USPATFULL on STN

Full Text	Citing References
AN	2003:258369 USPATFULL
TI	Cardioprotective phosphonates and malonates
IN	Haque, Wasimul, Edmonton, CANADA
PA	Medicure International Inc., St. James, BARBADOS (non-U.S. corporation)
PI	US 2003181422 A1 20030925 US 6867215 B2 20050315
AI	US 2003-377507 A1 20030228 (10)
RLI	Continuation of Ser. No. US 2001-795689, filed on 28 Feb 2001, PENDING
PRAI	US 2000-185899P 20000229 (60)
DT	Utility
FS	APPLICATION
LREP	MERCHANT & GOULD P.C., Attention: Anna M. Nelson, P.O. Box 2903, Minneapolis, MN, 55402-0903
CLMN	Number of Claims: 58
ECL	Exemplary Claim: 1
DRWN	No Drawings
LN.CNT	1543

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides for pyridoxine phosphonate analogues such as, for example, ((2-methyl-3-hydroxy-4-hydroxymethyl-5-pyridyl)alkylphosphonates, and (2-methyl-3-hydroxy-4-hydroxymethyl-5-pyridyl)azaalkylphosphonates) and to pyridoxine malonate analogues, such as, for example, ((2-methyl-3-hydroxy-4-hydroxymethyl-5-pyridylmethyl)malonates), pharmaceutical compositions, and methods for treatment of cardiovascular and related diseases, and diabetes mellitus and related diseases.

L22 ANSWER 12 OF 18 USPATFULL on STN

Full Text	Citing References
AN	2003:174226 USPATFULL
TI	Cardioprotective phosphonates and malonates
IN	Haque, Wasimul, Edmonton, CANADA
PA	Medicure International Inc., St. James, BARBADOS (non-U.S. corporation)
PI	US 2003120074 A1 20030626 US 6780997 B2 20040824
AI	US 2002-282328 A1 20021028 (10)

RLI Division of Ser. No. US 2001-795689, filed on 28 Feb 2001, PENDING  
PRAI US 2000-185899P 20000229 (60)  
DT Utility  
FS APPLICATION  
LREP MERCHANT & GOULD PC, P.O. BOX 2903, MINNEAPOLIS, MN, 55402-0903  
CLMN Number of Claims: 239  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 2316

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides for pyridoxine phosphonate analogues such as, for example, ((2-methyl-3-hydroxy-4-hydroxymethyl-5-pyridyl)alkylphosphonates, and (2-methyl-3-hydroxy-4-hydroxymethyl-5-pyridyl)azaalkylphosphonates) and to pyridoxine malonate analogues, such as, for example, ((2-methyl-3-hydroxy-4-hydroxymethyl-5-pyridylmethyl)malonates), pharmaceutical compositions, and methods for treatment of cardiovascular and related diseases, and diabetes mellitus and related diseases.

L22 ANSWER 13 OF 18 USPATFULL on STN

Full Text	Citing References
AN 2003:166820 USPATFULL	
TI Cardioprotective phosphonates and malonates	
IN Haque, Wasimul, Edmonton, CANADA	
PA Medicure International Inc., St. James, BARBADOS (non-U.S. corporation)	
PI <u>US 2003114678</u>	A1 20030619
<u>US 6667315</u>	B2 20031223
AI <u>US 2002-282326</u>	A1 20021028 (10)
RLI Division of Ser. No. <u>US 2001-795689</u> , filed on 28 Feb 2001, PENDING	
PRAI <u>US 2000-185899P</u>	20000229 (60)
DT Utility	
FS APPLICATION	
LREP MERCHANT & GOULD PC, P.O. BOX 2903, MINNEAPOLIS, MN, 55402-0903	
CLMN Number of Claims: 239	
ECL Exemplary Claim: 1	
DRWN No Drawings	
LN.CNT 2318	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides for pyridoxine phosphonate analogues such as, for example, ((2-methyl-3-hydroxy-4-hydroxymethyl-5-pyridyl)alkylphosphonates, and (2-methyl-3-hydroxy-4-hydroxymethyl-5-pyridyl)azaalkylphosphonates) and to pyridoxine malonate analogues, such as, for example, ((2-methyl-3-hydroxy-4-hydroxymethyl-5-pyridylmethyl)malonates), pharmaceutical compositions, and methods for treatment of cardiovascular and related diseases, and diabetes mellitus and related diseases.

L22 ANSWER 14 OF 18 USPATFULL on STN

Full Text	Citing References
AN 2003:166819 USPATFULL	
TI Cardioprotective phosphonates and malonates	
IN Haque, Wasimul, Edmonton, CANADA	
PA Medicure International Inc., St. James, BARBADOS (non-U.S. corporation)	
PI <u>US 2003114677</u>	A1 20030619
AI <u>US 2002-282325</u>	A1 20021028 (10)
RLI Division of Ser. No. <u>US 2001-795689</u> , filed on 28 Feb 2001, PENDING	
PRAI <u>US 2000-185899P</u>	20000229 (60)
DT Utility	

FS APPLICATION  
LREP MERCHANT & GOULD PC, P.O. BOX 2903, MINNEAPOLIS, MN, 55402-0903  
CLMN Number of Claims: 239  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 2315

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides for pyridoxine phosphonate analogues such as, for example, ((2-methyl-3-hydroxy-4-hydroxymethyl-5-pyridyl)alkylphosphonates, and (2-methyl-3-hydroxy-4-hydroxymethyl-5-pyridyl)azaalkylphosphonates) and to pyridoxine malonate analogues, such as, for example, ((2-methyl-3-hydroxy-4-hydroxymethyl-5-pyridylmethyl)malonates), pharmaceutical compositions, and methods for treatment of cardiovascular and related diseases, and diabetes mellitus and related diseases.

L22 ANSWER 15 OF 18 USPATFULL on STN

	Full Text	Citing References
AN	2002:307870	USPATFULL
TI	28 human secreted proteins	
IN	Ruben, Steven M., Olney, MD, UNITED STATES Rosen, Craig A., Laytonville, MD, UNITED STATES Li, Yi, Sunnyvale, CA, UNITED STATES Zeng, Zhizhen, Lansdale, PA, UNITED STATES Kyaw, Hla, Frederick, MD, UNITED STATES Fischer, Carrie L., Burke, VA, UNITED STATES Li, Haodong, Gaithersburg, MD, UNITED STATES Soppet, Daniel R., Centreville, VA, UNITED STATES Gentz, Reiner L., Rockville, MD, UNITED STATES Wei, Ying-Fei, Berkeley, CA, UNITED STATES Moore, Paul A., Germantown, MD, UNITED STATES Young, Paul E., Gaithersburg, MD, UNITED STATES Greene, John M., Gaithersburg, MD, UNITED STATES Ferrie, Ann M., Tewksbury, MA, UNITED STATES	
PI	US 2002172994	A1 20021121
	US 6878806	B2 20050412
AI	US 2001-852797	A1 20010511 (9)
RLI	Continuation-in-part of Ser. No. <u>US 1998-152060</u> , filed on 11 Sep 1998, PENDING Continuation-in-part of Ser. No. <u>WO 1998-US4858</u> , filed on 12 Mar 1998, UNKNOWN	
PRAI	US 2001-265583P	20010202 (60)
	US 1997-40762P	19970314 (60)
	US 1997-40710P	19970314 (60)
	US 1997-50934P	19970530 (60)
	US 1997-48100P	19970530 (60)
	US 1997-48357P	19970530 (60)
	US 1997-48189P	19970530 (60)
	US 1997-57765P	19970905 (60)
	US 1997-48970P	19970606 (60)
	US 1997-68368P	19971219 (60)

DT Utility

FS APPLICATION

LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850

CLMN Number of Claims: 23

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 17794

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to novel human secreted proteins and

isolated nucleic acids containing the coding regions of the genes encoding such proteins. Also provided are vectors, host cells, antibodies, and recombinant methods for producing human secreted proteins. The invention further relates to diagnostic and therapeutic methods useful for diagnosing and treating diseases, disorders, and/or conditions related to these novel human secreted proteins.

L22 ANSWER 16 OF 18 USPATFULL on STN

Full Text	Citing References
AN	2002:149131 USPATFULL
TI	28 human secreted proteins
IN	Ruben, Steven M., Olney, MD, UNITED STATES Rosen, Craig A., Laytonsville, MD, UNITED STATES Li, Yi, Sunnyvale, CA, UNITED STATES Zeng, Zhizhen, Lansdale, PA, UNITED STATES Kyaw, Hla, Frederick, MD, UNITED STATES Fischer, Carrie L., Burke, VA, UNITED STATES Li, Haodong, Gaithersburg, MD, UNITED STATES Soppet, Daniel R., Centreville, VA, UNITED STATES Gentz, Reiner L., Rockville, MD, UNITED STATES Wei, Ying-Fei, Berkeley, CA, UNITED STATES Moore, Paul A., Germantown, MD, UNITED STATES Young, Paul E., Gaithersburg, MD, UNITED STATES Greene, John M., Gaithersburg, MD, UNITED STATES Ferrie, Ann M., Tewksbury, MA, UNITED STATES
PI	US 2002077287 A1 20020620
AI	US 2001-852659 A1 20010511 (9)
RLI	Continuation-in-part of Ser. No. US 1998-152060, filed on 11 Sep 1998, UNKNOWN
DT	Utility
FS	APPLICATION
LREP	HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN	Number of Claims: 23
ECL	Exemplary Claim: 1
DRWN	No Drawings
LN.CNT	17779
CAS INDEXING IS AVAILABLE FOR THIS PATENT.	
AB	The present invention relates to novel human secreted proteins and isolated nucleic acids containing the coding regions of the genes encoding such proteins. Also provided are vectors, host cells, antibodies, and recombinant methods for producing human secreted proteins. The invention further relates to diagnostic and therapeutic methods useful for diagnosing and treating diseases, disorders, and/or conditions related to these novel human secreted proteins.

L22 ANSWER 17 OF 18 USPATFULL on STN

Full Text	Citing References
AN	2002:148614 USPATFULL
TI	28 human secreted proteins
IN	Ruben, Steven M., Olney, MD, UNITED STATES Rosen, Craig A., Laytonsville, MD, UNITED STATES Li, Yi, Sunnyvale, CA, UNITED STATES Zeng, Zhizhen, Lansdale, PA, UNITED STATES Kyaw, Hla, Frederick, MD, UNITED STATES Fischer, Carrie L., Burke, VA, UNITED STATES Li, Haodong, Gaithersburg, MD, UNITED STATES Soppet, Daniel R., Centreville, VA, UNITED STATES Gentz, Reiner L., Rockville, MD, UNITED STATES

Wei, Ying-Fei, Berkeley, CA, UNITED STATES  
Moore, Paul A., Germantown, MD, UNITED STATES  
Young, Paul E., Gaithersburg, MD, UNITED STATES  
Greene, John M., Gaithersburg, MD, UNITED STATES  
Ferrie, Ann M., Painted Post, NY, UNITED STATES

PI US 2002076756 A1 20020620  
US 6919433 B2 20050719  
AI US 2001-853161 A1 20010511 (9)  
PRAI US 2001-265583P 20010202 (60)

DT Utility

FS APPLICATION

LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850

CLMN Number of Claims: 23

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 17788

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to novel human secreted proteins and isolated nucleic acids containing the coding regions of the genes encoding such proteins. Also provided are vectors, host cells, antibodies, and recombinant methods for producing human secreted proteins. The invention further relates to diagnostic and therapeutic methods useful for diagnosing and treating diseases, disorders, and/or conditions related to these novel human secreted proteins.

L22 ANSWER 18 OF 18 USPATEFULL-on-STN

Full Text	Citing References
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AN 2002:17278 USPATFULL  
TI Cardioprotective phosphonates and malonates  
IN Haque, Wasimul, Edmonton, CANADA

PI US 2002010158 A1 20020124  
US 6605612 B2 20030812

AI US 2001-795689 A1 20010228 (9)

PRAI US 2000-185899P 20000229 (60)

DT Utility

FS APPLICATION

LREP MERCHANT & GOULD PC, P.O. BOX 2903, MINNEAPOLIS, MN, 55402-0903

CLMN Number of Claims: 239

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 2237

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides for pyridoxine phosphonate analogues such as, for example, ((2-methyl-3-hydroxy-4-hydroxymethyl-5-pyridyl)alkylphosphonates, and (2-methyl-3-hydroxy-4-hydroxymethyl-5-pyridyl)azaalkylphosphonates) and to pyridoxine malonate analogues, such as, for example, ((2-methyl-3-hydroxy-4-hydroxymethyl-5-pyridylmethyl)malonates), pharmaceutical compositions, and methods for treatment of cardiovascular and related diseases, and diabetes mellitus and related diseases.

=>

edema, and pulmonary edema.  $\beta$ -Adrenergic receptor antagonists and diuretics have been associated with incompatibility with nonsteroidal anti-inflammatory drugs in addition to impotence, gout, and muscle cramps in the case of diuretics and in addition to a decrease in left ventricular function and sudden withdrawal syndrome in the case of  $\beta$ -adrenergic receptor antagonists. Moreover, side effects associated with  $\alpha$ -adrenergic receptor antagonists include thostatic hypotension, and side effects associated with antithrombolytic agents include excessive bleeding.

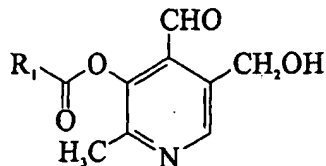
[0009] To address the side effects, the dosage of a drug may be reduced or the administration of the drug may be abated and replaced with another drug. It would be desirable to administer a drug therapy with decreased amounts of the active ingredient to reduce side effects but maintain effectiveness.

#### SUMMARY OF THE INVENTION

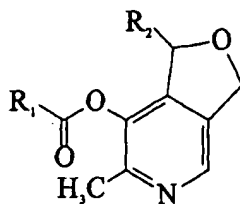
[0010] The present invention provides methods for treating cardiovascular and related diseases, such as, for example, hypertrophy, hypertension, congestive heart failure, myocardial ischemia, ischemia reperfusion injuries in an organ, arrhythmia, and myocardial infarction. One embodiment is directed to a method of treating cardiovascular disease in a mammal by concurrently administering to the mammal a therapeutically effective amount of a combination of a compound suitable for use in methods of the invention and a therapeutic cardiovascular compound. Therapeutic cardiovascular compounds suitable for use in methods of the invention include an angiotensin converting enzyme inhibitor, an angiotensin II receptor antagonist, a calcium channel blocker, an antithrombolytic agent, a  $\beta$ -adrenergic receptor antagonist, a vasodilator, a diuretic, an  $\alpha$ -adrenergic receptor antagonist, an antioxidant, and a mixture thereof. In some embodiments, the therapeutic cardiovascular compound is PPADS.

[0011] Compounds suitable for use in the methods of the invention include pyridoxal-5'-phosphate, pyridoxamine, pyridoxal, 3-acylated pyridoxal analogues, pharmaceutically acceptable acid addition salts thereof, and mixtures thereof.

[0012] In one embodiment, a 3-acylated pyridoxal analogue is a compound of the formula



[0013] In another embodiment, a 3-acylated pyridoxal analogue is a compound of the formula



#### BRIEF DESCRIPTION OF THE FIGURES

[0014] Figure 1 is a graph showing the effect of P-5-P and aspirin, alone or in combination, on mortality in the rat model of coronary ligation.

[0015] Figure 2 is a graph showing the effect of P-5-P and captopril, alone or in combination, on mortality in the rat model of coronary ligation.

[0016] Figure 3 is a graph showing the effect of P-5-P and propranolol, alone or in combination, on mortality in the rat model of coronary ligation.

[0017] Figure 4 is a graph showing the effect of P-5-P and verapamil, alone or in combination, on mortality in the rat model of coronary ligation.

[0018] Figure 5 is a graph showing the effect of P-5-P and aspirin, alone or in combination, on scar weight in the rat model of coronary ligation.

[0019] Figure 6 is a graph showing the effect of P-5-P and captopril, alone or in combination, on scar weight in the rat model of coronary ligation.

[0020] Figure 7 is a graph showing the effect of P-5-P and propranolol, alone or in combination, on scar weight in the rat model of coronary ligation.

[0021] Figure 8 is a graph showing the effect of P-5-P and verapamil, alone or in combination, on scar weight in the rat model of coronary ligation.

[0022] Figure 9 is a graph showing the effect of P-5-P and aspirin, alone or in combination, on the rate of force of contraction ( $+dp/dt$ ) in the rat model of coronary ligation.

[0023] Figure 10 is a graph showing the effect of P-5-P and captopril, alone or in combination, on the rate of force of contraction ( $+dp/dt$ ) in the rat model of coronary ligation.

[0024] Figure 11 is a graph showing the effect of P-5-P and propranolol, alone or in combination, on the rate of force of contraction ( $+dp/dt$ ) in the rat model of coronary ligation.

[0025] Figure 12 is a graph showing the effect of P-5-P verapamil, alone or in combination, on the rate of force of contraction ( $+dp/dt$ ) in the rat model of coronary ligation.

[0026] Figure 13 is a graph showing the effect of P-5-P and aspirin, alone or in combination, on the rate of force of relaxation ( $-dp/dt$ ) in the rat model of coronary ligation.

[0027] Figure 14 is a graph showing the effect of P-5-P and captopril, alone or in combination, on the rate of force of relaxation ( $-dp/dt$ ) in the rat model of coronary ligation.

[0028] Figure 15 is a graph showing the effect of P-5-P and propranolol, alone or in combination, on the rate of force of relaxation ( $-dp/dt$ ) in the rat model of coronary ligation.

[0029] Figure 16 is a graph showing the effect of P-5-P and verapamil, alone or in combination, on the rate of force of relaxation ( $-dp/dt$ ) in the rat model of coronary ligation.

[0030] Figure 17 is a graph showing the effect of P-5-P and aspirin, alone or in combination, on left ventricular end diastolic pressure (LVEDP) in the rat model of coronary ligation.

[0031] Figure 18 is a graph showing the effect of P-5-P and captopril, alone or in combination, on left ventricular end diastolic pressure (LVEDP) in the rat model of coronary ligation.

[0032] Figure 19 is a graph showing the effect of P-5-P and propranolol, alone or in combination, on left ventricular end diastolic pressure (LVEDP) in the rat model of coronary ligation.

[0033] Figure 20 is a graph showing the effect of P-5-P and verapamil, alone or in combination, on left ventricular end diastolic pressure (LVEDP) in the rat model of coronary ligation.

[0034] Figure 21 is a graph showing the effect of P-5-P and aspirin, alone or in combination, on heart weight in the rat model of coronary ligation.

[0035] Figure 22 is a graph showing the effect of P-5-P and captopril, alone or in combination, on heart weight in the rat model of coronary ligation.

[0036] Figure 23 is a graph showing the effect of P-5-P propranolol, alone or in combination, on heart weight in the rat model of coronary ligation.

[0037] Figure 24 is a graph showing the effect of P-5-P and verapamil, alone or in combination, on heart weight in the rat model of coronary ligation.

[0038] Figure 25 is a graph showing the effect of P-5-P and aspirin, alone or in combination, on right ventricular weight in the rat model of coronary ligation.

[0039] Figure 26 is a graph showing the effect of P-5-P and captopril, alone or in combination, on right ventricular weight in the rat model of coronary ligation.

[0040] Figure 27 is a graph showing the effect of P-5-P and propranolol, alone or in combination, on right ventricular weight in the rat model of coronary ligation.

[0041] Figure 28 is a graph showing the effect of P-5-P and verapamil, alone or in combination, on right ventricular weight in the rat model of coronary ligation.

[0042] Figure 29A is a graph showing systolic blood pressure in rats from all pretreatment experiment groups at "0" day. "C" designates a control group; "S" designates a sucrose diet induced diabetic group; "M" designates a group administered P-5-P alone; "Ca" designates a group administered captopril alone; "V" designates a group administered verapamil alone; "M+Ca" designates a group administered P-5-P and captopril; "M+V" designates a group administered P-5-P and verapamil.

[0043] Figure 29B is a graph showing the effect of pretreatment with P-5-P, captopril and verapamil on systolic blood pressure in rats when administered 1 week prior to sucrose diet induced diabetes. "C", "S", "M", "Ca", "V", "M+Ca", and "M+V" are designated as in Figure 29A.

[0044] Figure 30A is a graph showing systolic blood pressure in rats from all experiment groups involved in same day treatment as sucrose feeding at "0" day. "C", "S", "M", "Ca", "V", "M+Ca", and "M+V" are designated as in Figure 29A.

[0045] Figure 30B is a graph showing the effect of administration of P-5-P, captopril and verapamil on systolic blood pressure in rats when administered the same day as sucrose feeding to induce diabetes. "C", "S", "M", "Ca", "V", "M+Ca", and "M+V" are designated as in Figure 29A.

**[0046]** Figure 31A is a graph showing systolic blood pressure in rats from all experiment groups involved in treatment two weeks after sucrose feeding at "0" day. "C", "S", "M", "Ca", "V", "M+Ca", and "M+V" are designated as in Figure 29A.

**[0047]** Figure 31B is a showing systolic blood pressure in rats from all experiment groups involved in treatment two weeks after sucrose feeding at "0" day. "C", "S", "M", "Ca", "V", "M+Ca", and "M+V" are designated as in Figure 29A.

#### DESCRIPTION OF THE INVENTION

**[0048]** The present invention provides methods for treatment of cardiovascular and related diseases or conditions. Such cardiovascular and related diseases include hypertrophy, hypertension, congestive heart failure, ischemia, such as myocardial ischemia, ischemia reperfusion injury, arrhythmia, and myocardial infarction.

**[0049]** In accordance with the present invention, it has been found that pyridoxal-5'-phosphate and its derivatives can be used concurrently with therapeutic cardiovascular compounds in the treatment of the above-identified diseases and conditions. "Treatment" and "treating" as used herein include preventing, inhibiting, and alleviating cardiovascular diseases, related diseases, and related symptoms as well as healing the ischemia-related conditions or symptoms thereof affecting mammalian organs and tissues. Treatment may be carried out by concurrently administering a therapeutically effective amount of a combination of a compound suitable for use in methods of the invention and a therapeutic cardiovascular compound.

**[0050]** A "therapeutically effective amount" as used herein includes a prophylactic amount, for example, an amount effective for preventing or protecting against cardiovascular diseases, related diseases, and symptoms thereof, and amounts effective for alleviating or healing cardiovascular diseases, related diseases, and symptoms thereof. By administering a compound suitable for use in methods of the invention concurrently with a therapeutic cardiovascular compound, the therapeutic cardiovascular compound may be administered in a dosage amount that is less than the dosage amount required when the therapeutic cardiovascular compound is administered as a sole active ingredient. By administering lower dosage amounts of the active ingredient, the side effects associated therewith should accordingly be reduced.

[0125] The purified solid was analyzed according to Example 2, and the purity was confirmed according to Example 1.

Example 9: In Vitro - Ischemia Reperfusion in Isolated Rat Hearts and Measurement of Left Ventricular Developed Pressure (LVDP)

[0126] Male Sprague-Dawley rats weighing 250-300g are anaesthetized with a mixture of ketamine (60 mg/kg) and xylazine (10 mg/kg). The hearts are rapidly excised, cannulated to a Langendorff apparatus and perfused with Krebs-Henseleit-solution, gassed with a mixture of 95% O<sub>2</sub> and 5% CO<sub>2</sub>, pH 7.4. The perfusate contained (in mM): 120 NaCl, 25 NaHCO<sub>3</sub>, 11 glucose, 4.7 KCl, 1.2 KH<sub>2</sub>PO<sub>4</sub>, 1.2 MgSO<sub>4</sub> and 1.25 CaCl<sub>2</sub>.

[0127] The hearts are electrically stimulated at a rate of 300 beats/min (Phipps and Bird Inc., Richmond, VA) and a water-filled latex balloon is inserted in the left ventricle and connected to a pressure transducer (Model 1050BP; BYOPAC SYSTEM INC., Goleta, California) for the left ventricular systolic measurements. The left ventricular end diastolic pressure (LVEDP) is adjusted at 10 mmHg at the beginning of the experiment. In some experiments the left ventricular pressures are differentiated to estimate the rate of ventricular contraction (+dP/dt) and rate of ventricular relaxation (-dP/dt) using the Acknowledge 3.03 software for Windows (BIOPAC SYSTEM INC., Goleta, California). All hearts are stabilized for a period of 30 min and then randomly distributed into nine different experimental groups (n= 5-8 per group). The experimental groups are defined as follows:

- 1) Control group (control hearts are further perfused for 90 minutes for a total of 130 min of continuous perfusion);
- 2) Ischemia reperfusion group (Ischemia reperfusion hearts are made globally ischemic by stopping the coronary flow completely for 30 min and then the hearts are reperused for 60 min);
- 3) P-5-P (15 uM) treated group;
- 4) captopril (100 uM) treated group;
- 5) verapamil (0.01 uM) treated group;
- 6) propranolol (3mM) treated group;
- 7) PPADS (10 uM) treated group;

- 8) P-5-P + captopril treated group;
- 9) P-5-P + verapamil treated group;
- 10) P-5-P + propranolol treated group;
- 11) P-5-P + PPADS treated group.

**[0128]** Drug treatment is started 10 min before global ischemia followed by 30 min global ischemia and 60 min reperfusion. At the end of some experiments, the hearts are quickly freeze-clamped with a liquid nitrogen precooled Wollenberger tong. Rats are housed in clear cages in a temperature and humidity controlled room on a 12 hr light-dark cycle. Food and water are supplied *ad libitum*.

**[0129]** Hearts subject to 30 min of ischemia followed by 60 min of reperfusion showed slight recovery in the contractile function as represented by 29.5% recovery in LVDP (left ventricular developed pressure). As compared to the untreated group, treatment with P-5-P, captopril, or P-5-P and captopril showed better recoveries in LVDP by 78.2%, 61.4%, and 132% respectively (Table I).

**Table I**  
Effect of Pyridoxal-5-phosphate (P-5-P, 15uM) and Captopril (100uM) on % recovery of left ventricular systolic pressure (LVDP).

Drugs	LVDP		LVEDP mmHg	LVSP mmHg	% recovery (LVDP)
	(B)	(A)			
Untreated	87±7	25±2.9	62±5.6	87±6.9	29.5±3.7
P5P	80±3.8	63±5	35±4.8	98±8.2	78.2 ± 3.3*
Captopril	78±10.9	47±8.6	54±6.7	101±14.6	61.4 ± 5.2*
P5P + Captopril	89±6.9	69±7.4	28±7.3	117±8.4	132 ± 7.5 <sup>#</sup>

(A) =After ischemia, (B) =Before ischemia.

**[0130]** Hearts subject to 30 min of ischemia followed by 60 min of reperfusion showed slight recovery in the contractile function as represented by 29.5% recovery in LVDP. As compared to the untreated group, treatment with P-5-P, verapamil, or P-5-P and verapamil showed better recoveries in LVDP by 78.2%, 43%, and 109% respectively (Table II).

**Table II**

Effect of Pyridoxal-5-phosphate (P-5-P, 15uM) and Verapamil (0.01uM) on % recovery of left ventricular systolic pressure (LVDP).

Drugs	LVDP		LVEDP mmHg	LVSP mmHg	% recovery (LVDP)
	(B)	(A)			
Untreated	87±7	25±2.9	62±5.6	87±6.9	29.5±3.7
P5P	80±3.8	63±5	35±4.8	98±8.2	78.2 ± 3.3*
Verapamil	54±9.1	23±4.5	55±5.1	78±7.7	43 ± 6.6
P5P + Verapamil	78±10.5	85±11.7	34±7.3	119±8	109 ± 4.6 <sup>#</sup>

(A) =After ischemia, (B) =Before ischemia.

[0131] Hearts subject to 30 min of ischemia followed by 60 min of reperfusion showed slight recovery in the contractile function as represented by 29.5% recovery in LVDP. As compared to the untreated group, treatment with P-5-P, PPADS, or P-5-P and PPADS showed better recoveries in LVDP by 78.2%, 61%, and 128% respectively (Table III).

**Table III**

Effect of Pyridoxal-5-phosphate (P-5-P, 15uM) and Pyridoxal phosphate 6-azophenyl-2'-4'disulfonic acid (PPADS 100uM) on % recovery of left ventricular systolic pressure (LVDP).

Drugs	LVDP		LVEDP mmHg	LVSP mmHg	% recovery (LVDP)
	(B)	(A)			
Untreated	87±7	25±2.9	62±5.6	87±6.9	29.5±3.7
P5P	80±3.8	63±5	35±4.8	98±8.2	78.2 ± 3.3*
PPADS	92±15.2	58±13.6	57±6.3	115±11.5	61 ± 4.8*
P5P + PPADS	82±15.8	105±22.8	34±3.1	139±21.6	128 ± 13.8 <sup>#</sup>

(A) =After ischemia, (B) =Before ischemia.

[0132] Hearts subject to 30 min of ischemia followed by 60 min of reperfusion showed slight recovery in the contractile function as represented by 29.5% recovery in LVDP. As compared to the untreated group, treatment with P-5-P, propranolol, or P-5-P and propranolol showed better recoveries in LVDP by 78.2%, 74%, and 120% respectively (Table IV).

**Table IV**

**Effect of Pyridoxal-5-phosphate (P-5-P, 15uM) and Propranolol (3uM) on % recovery of left ventricular systolic pressure (LVDP).**

Drugs	LVDP		LVEDP mmHg	LVSP mmHg	% recovery (LVDP)
	(B)	(A)			
Untreated	87±7	25±2.9	62±5.6	87±6.9	29.5±3.7
P5P	80±3.8	63±5	35±4.8	98±8.2	78.2 ± 3.3*
Propranolol	61±10.8	45±9.7	27±6.6	72±15.1	74 ± 4.9*
P5P + Propranolol	67±12.6	75±10.4	40±4.2	115±8.3	120 ± 15.5 <sup>#</sup>

(A) =After ischemia, (B) =Before ischemia

[0133] Tables I-IV demonstrate that P-5-P in addition to providing significant benefit in ischemia reperfusion injury when given alone also improves or adds to the benefits associated with other commonly used drugs when given in combination with these drugs.

[0134] In addition to captopril, other angiotensin converting enzyme inhibitors, such as, for example, enalapril or imidapril, can similarly be administered in place of captopril. In addition to verapamil, other known calcium channel blockers, such as, for example, nifedipine or diltiazem, can similarly be administered in place of verapamil. In addition to propranolol, other  $\beta$ -adrenergic receptor antagonists such as, for example, atenolol, timolol, and metoprolol can similarly be administered in place of propranolol. Additionally, angiotensin II receptor antagonists such as, for example, losartan and valsartan can be used in the above example.

**Example 10: In Vivo - Coronary Artery Ligation**

[0135] Myocardial infarction is produced in male Sprague-Dawley rats (200-250 g) by occlusion of the left coronary artery as described in Sethi et al., J. Cardiac Failure, 1(5) (1995) and Sethi et al., Am. J. Physiol., 272 (1997).

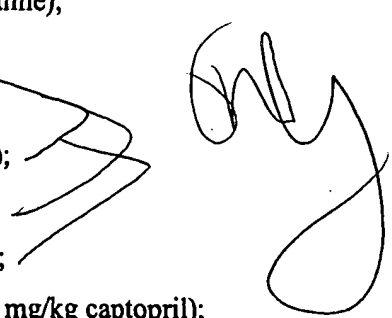
[0136] Rats are anesthetized with 1-5% isoflurane in 100% O<sub>2</sub> (2L flow rate). The skin is incised along the left sterna border and the 4th rib is cut proximal to the sternum and a retractor inserted. The pericardial sac is opened and the heart externalized. The left anterior descending

coronary artery is ligated approximately 2 mm from its origin on the aorta using a 6-0 silk suture. The heart is then repositioned in the chest and the incision closed via purse-string sutures.

**[0137]** Sham operated rats undergo identical treatment except that the artery is not ligated. Mortality due to surgery is less than 1%. Unless indicated in the text, the experimental animals showing infarct size >30% of the left ventricle are used in this study. All animals are allowed to recover, allowed to receive food and water ad libitum, and are maintained for a period of 21 days for Electrocardiogram (ECG), hemodynamic, and histological assessment.

**[0138]** Occlusion of the coronary artery in rats has been shown to produce myocardial cell damage which results in scar formation in the left ventricle and heart dysfunction. While the complete healing of the scar occurs within 3 weeks of the coronary occlusion, mild, moderate and severe stages of congestive heart failure have been reported to occur at 4, 8 and 16 weeks after ligation. Accordingly, the contractile dysfunction seen at 3 weeks after the coronary occlusion in rats is due to acute ischemic changes.

**[0139]** The rats are housed in clear cages in a temperature and humidity controlled room, on a 12 hour light-dark cycle. Food and water are supplied ad libitum. After surgery, rats are randomly assigned to treatment or non-treatment in both sham and experimental groups. Randomization of animals was performed and treatment begins 1 hour after coronary occlusion and continues for 21 days. The total duration of experiments in each case is 21 days. The groups are as follows:

- 1) sham operated;
  - 2) coronary artery ligated (treatment with equal volumes of saline);
  - 3) coronary artery ligated (treated with 10 mg/kg P-5-P);
  - 4) coronary artery ligated (treated with 100 mg/kg captopril);
  - 5) coronary artery ligated (treated with 50 mg/kg propranolol);
  - 6) coronary artery ligated (treated with 100 mg/kg aspirin);
  - 7) coronary artery ligated (treated with 25 mg/kg verapamil);
  - 8) coronary artery ligated (treated with 10 mg/kg P-5-P + 100 mg/kg captopril);
  - 9) coronary artery ligated (treated with 10 mg/kg P-5-P + 50 mg/kg propranolol);
- 

- 10) coronary artery ligated (treated with 10 mg/kg P-5-P + 100 mg/kg aspirin);  
11) coronary artery ligated (treated with 10 mg/kg P-5-P + 25 mg/kg verapamil).

**[0140]** P-5-P (10 mg/kg), captopril (100 mg/kg), propranolol (50 mg/kg), verapamil (25 mg/kg) and aspirin (100 mg/kg) were administered once daily by gastric tube.

**[0141]** Acute myocardial infarction resulted in a total mortality of 35% % in the untreated group of rats in 21 days. The highest mortality occurred within the first 2 days following occlusion. As compared to the untreated group, treatment with P-5-P, aspirin, or P-5-P and aspirin showed lower mortality rates of 15%, 25%, 15%, respectively (Figure 1).

**[0142]** Acute myocardial infarction resulted in a total mortality of 35% % in the untreated group of rats in 21 days. The highest mortality occurred within the first 2 days following occlusion. As compared to the untreated group, treatment with P-5-P, captopril, or P-5-P and captopril showed lower mortality rates of 10%, 15%, 20%, respectively (Figure 2).

**[0143]** Acute myocardial infarction resulted in a total mortality of 35% % in the untreated group of rats in 21 days. The highest mortality occurred within the first 2 days following occlusion. As compared to the untreated group, treatment with P-5-P, propranolol, or P-5-P and propranolol showed lower mortality rates of 15%, 20%, 20%, respectively (Figure 3).

**[0144]** Acute myocardial infarction resulted in a total mortality of 35% % in the untreated group of rats in 21 days. The highest mortality occurred within the first 2 days following occlusion. As compared to the untreated group, treatment with P-5-P, verapamil, or P-5-P and verapamil showed lower mortality rates of 15%, 25%, 10%, respectively (Figure 4).

**[0145]** In addition to captopril, other angiotensin converting enzyme inhibitors, such as, for example, enalapril or imidapril, can similarly be administered in place of captopril. In addition to verapamil, other known calcium channel blockers, such as, for example, nifedipine or diltiazem, can similarly be administered in place of verapamil. In addition to propranolol, other  $\beta$ -adrenergic receptor antagonists such as, for example, atenolol, timolol, and metoprolol can

similarly be administered in place of propranolol. In addition to aspirin, other antithrombolytic agents such as, for example, antiplatelet agents and heparin can similarly be administered in place of aspirin. Additionally, angiotensin II receptor antagonists such as, for example, losartan and valsartan can be used in the above example.

**[0146]** These animals are used in Examples 11 and 12 below. For EKG studies, these animals are used as their controls before surgery, so that before surgery is done on these animals EKG traces are taken which are then used as controls for the same animals after surgery.

**Example 11: In Vivo - Hemodynamic Changes**

**[0147]** The animals are prepared and grouped as described in Example 10 and were anesthetized with a solution of ketamine/xylazine which was injected. To maintain adequate ventilation, the trachea was intubated; the right carotid artery was exposed for introducing a microtip pressure transducer (model SPR-249, Millar, Houston, TX) into the left ventricle. The catheter was secured with a silk ligature around the artery, and various hemodynamic parameters such as left ventricular systolic pressure (LVSP), left ventricular end diastolic pressure (LVEDP), rate of contraction (+dp/dt), rate of relaxation (-dp/dt) were recorded and calculated on a computer system using a Acknowledge 3.1 software.

**[0148]** Once the hemodynamic parameters were measured the animals were sacrificed and hearts removed for measurement of heart weight, right ventricular weight, left ventricular weight and scar weight. Because complete healing of the scar in rats after coronary occlusion requires approximately 3 weeks, scar weight were measured only at 21 days.

**[0149]** Figures 5-8 demonstrate that the occlusion of coronary artery in rats for 21 days produces a significant scar evident by scar weight. Furthermore, Figures 5-8 demonstrate that P-5-P has a significant beneficial effect on scar weight in groups where P-5-P treatment is either given alone or in combination with verapamil, aspirin, captopril, or propranolol, respectively.

**[0150]** Figures 9-12 demonstrate that P-5-P has a significant beneficial effect on rate of contraction (+dP/dt) in groups where P-5-P treatment is either given alone or in combination with verapamil, aspirin, captopril, or propranolol, respectively.

**[0151]** Figures 13-16 demonstrate that P-5-P has a significant beneficial effect on rate of relaxation (+dP/dt) in groups where P-5-P treatment is either given alone or in combination with verapamil, aspirin, captopril, or propranolol, respectively.

**[0152]** Figures 17-20 demonstrate that P-5-P has a significant beneficial effect on rate of left ventricular end diastolic pressure (LVEDP) in groups where P-5-P treatment is either given alone or in combination with verapamil, aspirin, captopril, or propranolol, respectively.

**[0153]** Figures 21-24 demonstrate that P-5-P has a significant beneficial effect on whole heart weight in groups where P-5-P treatment is either given alone or in combination with verapamil, aspirin, captopril, or propranolol, respectively.

**[0154]** Figures 25-28 demonstrate that P-5-P has a significant beneficial effect on right ventricular weight in groups where P-5-P treatment is either given alone or in combination with verapamil, aspirin, captopril, or propranolol, respectively.

**[0155]** In addition to captopril, other angiotensin converting enzyme inhibitors, such as, for example, enalapril or imidapril, can similarly be administered in place of captopril. In addition to verapamil, other known calcium channel blockers, such as, for example, nifedipine or diltiazem, can similarly be administered in place of verapamil. In addition to propranolol, other  $\beta$ -adrenergic receptor antagonists such as, for example, atenolol, timolol, and metoprolol can similarly be administered in place of propranolol. In addition to aspirin, other antithrombolytic agents such as, for example, antiplatelet agents and heparin can similarly be administered in place of aspirin. Additionally, angiotensin II receptor antagonists such as, for example, losartan and valsartan can be used in the above example.

**Example 12: In Vivo - Hypertension**

**[0156]** It has been well demonstrated by various investigators that feeding 8-10% sucrose in water induces hypertension in rats. Zein et al., Am. Coll. Nutr., 17 (1), 36-37, 1998; Hulman et al., Pediatr. Res., 36:95-101; Reaven et al., Am. J. Hypertens; 1991:610-614. In applying this model, the concurrent administration of pyridoxal-5'-phosphate and captopril or verapamil significantly decreases the sucrose-induced increase in systolic blood pressure (SBP).

**[0157]** The blood pressure is monitored using the tail cuff method. The SBP is detected on an amplifier and the Acknowledge™ computer software program is used to determine the calculations.

**[0158]** The effect of concurrent administration of pyridoxal-5'-phosphate and captopril or verapamil on systolic blood pressure (marker of hypertension) in 10% sucrose induced hypertension in rats is determined.

**[0159]** Figures 29A and 9B demonstrate that P-5-P has a significant beneficial effect on systolic blood pressure in groups where P-5-P treatment is either given alone or in combination with verapamil or captopril 1 week prior to inducing hypertension in rats with a sucrose diet.

**[0160]** Figures 29A and 29B demonstrate that P-5-P has a significant beneficial effect on systolic blood pressure in groups where P-5-P treatment is either given alone or in combination with verapamil or captopril 1 week prior to inducing hypertension in rats with a sucrose diet.

**[0161]** Figures 30A and 30B demonstrate that P-5-P has a significant beneficial effect on systolic blood pressure in groups where P-5-P treatment is either given alone or in combination with verapamil or captopril the same day as inducing hypertension in rats with a sucrose diet.

**[0162]** Figures 31A and 31B demonstrate that P-5-P has a significant beneficial effect on systolic blood pressure in groups where P-5-P treatment is either given alone or in combination with verapamil or captopril two weeks after inducing hypertension in rats with a sucrose diet.

**[0163]** In addition to captopril, other angiotensin converting enzyme inhibitors, such as, for example, enalapril or imidapril, can similarly be administered in place of captopril. In addition to verapamil, other known calcium channel blockers, such as, for example, nifedipine or diltiazem, can similarly be administered in place of verapamil. In addition to propranolol, other  $\beta$ -adrenergic receptor antagonists such as, for example, atenolol, timolol, and metoprolol can similarly be administered in place of propranolol. Additionally, angiotensin II receptor antagonists such as, for example, losartan and valsartan can be used in the above example.

**[0164]** It should be noted that, as used in this specification and the appended claims, the singular forms "a," "an," and "the" include plural referents unless the content clearly dictates otherwise. Thus, for example, reference to a composition containing "a compound" includes a mixture of two or more compounds.

**[0165]** Although embodiments of the invention have been described above, it is not limited thereto, and it will be apparent to persons skilled in the art that numerous modifications and variations form part of the present invention insofar as they do not depart from the spirit, nature, and scope of the claimed and described invention.

**[0166]** All references, applications, and patents cited herein are incorporated by reference.